

SECTION 4

ELECTRICAL ADJUSTMENTS

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1. POWER

1-1. DC Voltage Adjustment

ITEM	TEST	ADJUST	SPEC.
3.15V ADJ.	*TP9	VR5	$3.15 \pm 0.01V$
3.6V ADJ.	TP4	VR3	$3.6 \pm 0.05V$
5.0V ADJ.	TP5	VR2	$5.0 \pm 0.05V$
5.6V ADJ.	TP3	VR1	$5.6 \pm 0.05V$
-5.6V ADJ.	TP8	VR6	$-5.6 \pm 0.51V$
9.0V ADJ.	TP6	VR4	$9.0 \pm 0.05V$
48V Confirm	TP9	- - -	$44.0 \pm 4.0V$

Note:

*The test point of 3.15V adjustment is on the VTR MAIN C.B.A., other TP and VR are on the POWER C.B.A. (GND : TP2)

<<PC-EVR Operation>>

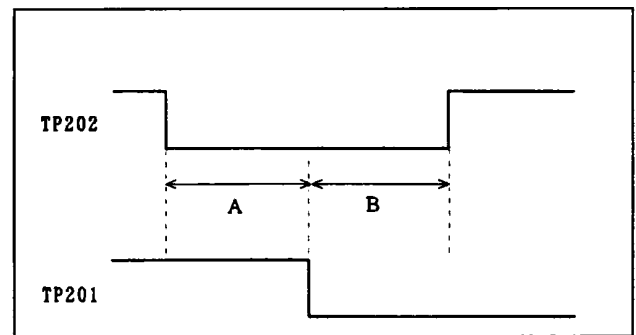
1. Select Start Adjustment D223N and press Enter.
2. Select "PAL or NTSC" and press Enter.
3. Press F1(File) key.
4. Select "HD Read" on *Auto File and press Enter.
5. Select adjustment item of Sub Title on <Select File Read>.
6. Press "F5 (Mode)" key and set "1 Step or All Steps" mode.
7. Select adjustment item by $\uparrow$ or $\downarrow$ key and press Enter.
8. Adjust value by $\uparrow$ or $\downarrow$ key at <interactive Adjustment> window.
9. Press Enter to Exit from above window.

2. 1394 & PRE-SHUFFLE (PAL only)

2-1. PLL POS. Adjustment

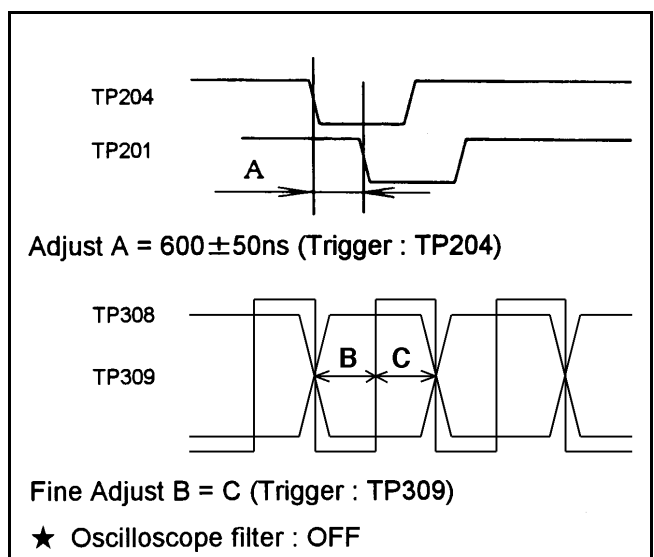
BOARD	1394 & PRE SHUFFLE
TEST	TP201, TP202
ADJUST	PC-EVR PLL_POS1_PAL
MODE	EE
INPUT	Color Bar
M.EQ	Oscilloscope
SPEC.	$B=A \pm 10\%$

Select PC-EVR "VIDEO ADJUSTMENT 1" $\Rightarrow$ "1. PLL_POS_ADJUSTMENT".



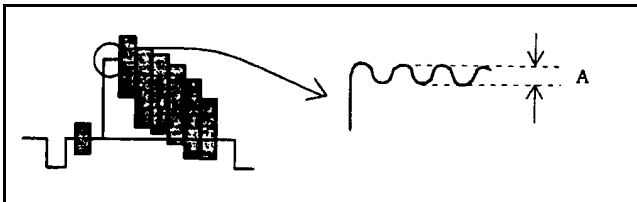
2-2. INH POS. Adjustment

BOARD	1394 & PRE SHUFFLE
TEST	TP201, TP204, TP308, TP309
ADJUST	VR201
MODE	EE
INPUT	Color Bar
M.EQ	Oscilloscope
SPEC.	$A=600 \pm 50ns$, $B=C$



2-3. Carrier Balance Adjustment

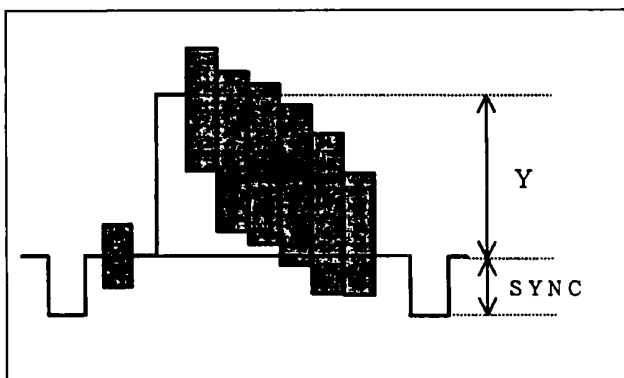
BOARD	1394 & PRE SHUFFLE
TEST	VIDEO OUT
ADJUST	VR609 (PR), VR610 (PB)
MODE	EE
INPUT	Color Bar
M.EQ	WFM
SPEC.	A=MINIMUM



2-4. Video & SYNC Level Adjustment

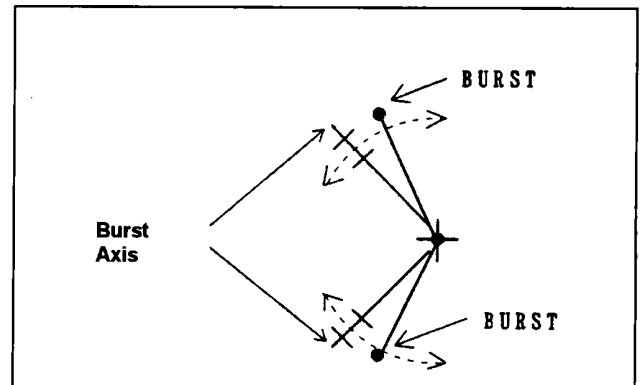
BOARD	1394 & PRE SHUFFLE
TEST	VIDEO OUT
ADJUST	PC-EVR : Y_LEVEL VR602 (SYNC)
MODE	EE
INPUT	Color Bar
M.EQ	Oscilloscope or WFM
SPEC.	$Y=700 \pm 35\text{mVp-p}$ $\text{SYNC}=300 \pm 15\text{mVp-p}$

Select PC-EVR "VIDEO ADJUSTMENT 1" $\Rightarrow$ "2. Y_LEVEL_ADJUSTMENT", And SYNC Level adjust by VR602.



2-5. Burst 0 Phase Adjustment

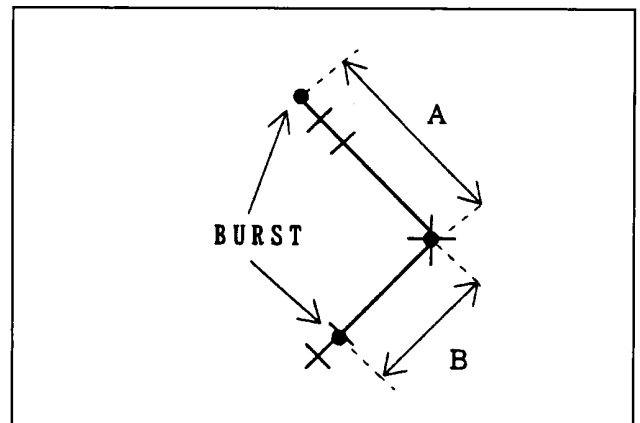
BOARD	1394 & PRE SHUFFLE
TEST	VIDEO OUT
ADJUST	VR608 (BURST 0)
MODE	EE
INPUT	Color Bar
M.EQ	Vector Scope
SPEC.	Vector Scale(see below)



Adjust the both Burst phase align to the Burst Axis of the Vector Scope.

2-6. QUAD Adjustment

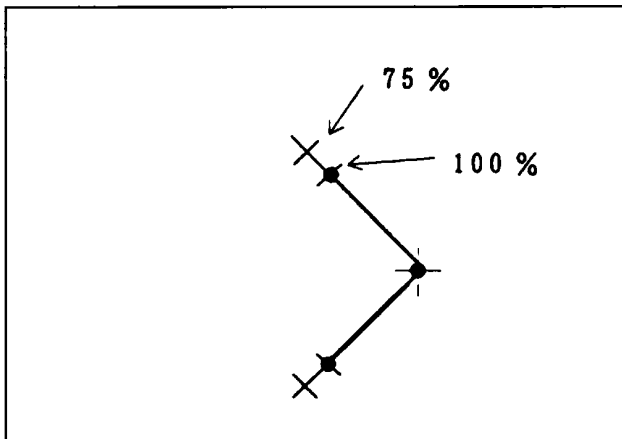
BOARD	1394 & PRE SHUFFLE
TEST	VIDEO OUT
ADJUST	VC601 (QUAD)
MODE	EE
INPUT	Color Bar
M.EQ	Vector Scope
SPEC.	A=B



Adjust the Burst level A and B are same level.

2-7. Burst Level Adjustment

BOARD	1394 & PRE SHUFFLE
TEST	VIDEO OUT
ADJUST	VR607
MODE	EE
INPUT	Color Bar
M.EQ	Vector Scope
SPEC.	Burst Level = 100% Scale



2-8. Chroma Level Adjustment

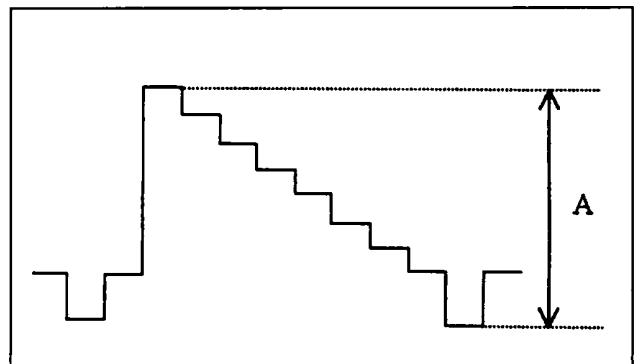
BOARD	1394 & PRE SHUFFLE
TEST	VIDEO OUT
ADJUST	VR604 (PB) PC-EVR : C_LEVEL (PR)
MODE	EE
INPUT	Color Bar
M.EQ	Vector Scope
SPEC.	See below

Select PC-EVR "VIDEO ADJUSTMENT 1" $\Rightarrow$ "3. CHROMA_ADJUSTMENT(PR_LEVEL)".

Adjust PR level by PC-EVR first and PB level by VR so that Red dot Becomes into center of square mark on the Vector Scope. And confirm other color dot on the each square marks.

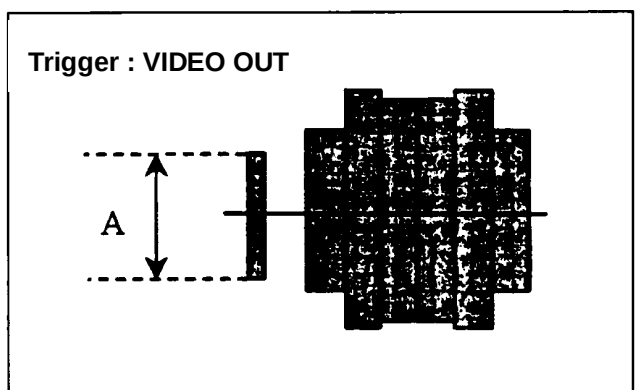
2-9. Y Out Level Adjustment

BOARD	1394 & PRE SHUFFLE
TEST	Y OUT
ADJUST	VR802 (Y LEVEL)
MODE	EE
INPUT	Color Bar
M.EQ	WFM or Oscilloscope
SPEC.	$A=1.00 \pm 0.05V_{p-p}$



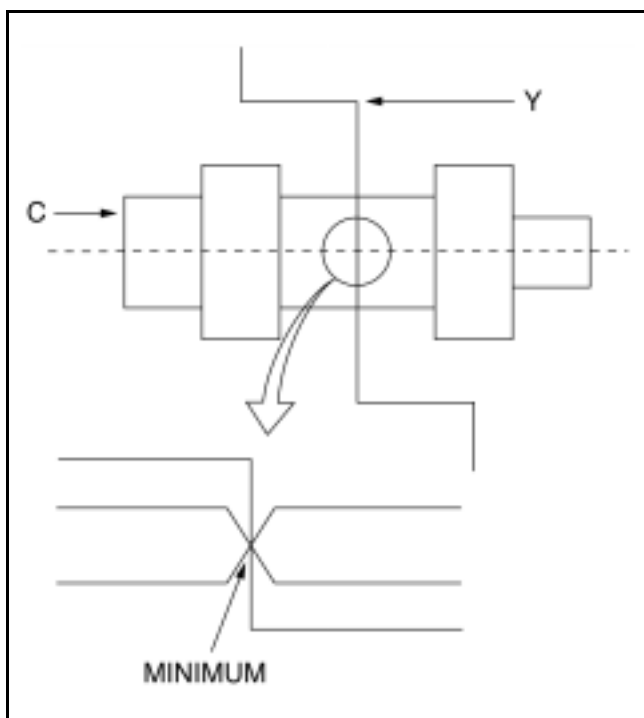
2-10. C Out Level Adjustment

BOARD	1394 & PRE SHUFFLE
TEST	C OUT
ADJUST	VR803 (C LEVEL)
MODE	EE
INPUT	Color Bar
M.EQ	WFM or Oscilloscope
SPEC.	$A=300 \pm 15mV_{p-p}$



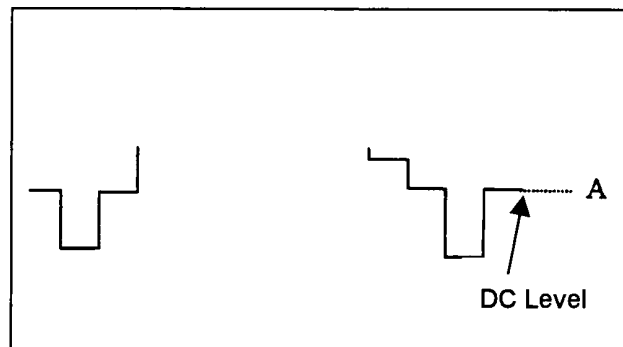
2-11. Y/C Timing Adjustment

BOARD	1394 & PRE SHUFFLE
TEST	TP802(Y), TP803(C)
ADJUST	VR603(PB), VR605(PR)
MODE	EE
INPUT	Color Bar
M.EQ	WFM or Oscilloscope
SPEC.	A=MINIMUM



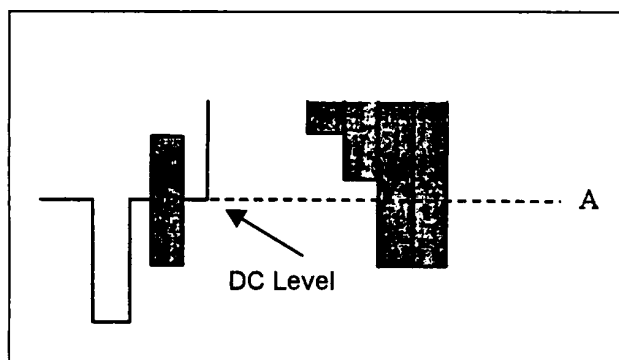
2-13. Y Out DC Adjustment

BOARD	1394 & PRE SHUFFLE
TEST	TP802(Y)
ADJUST	VR801(Y DC)
MODE	EE
INPUT	Color Bar
M.EQ	Oscilloscope
SPEC.	A= $0 \pm 0.05V$



2-12. Video Out DC Adjustment

BOARD	1394 & PRE SHUFFLE
TEST	TP804(VIDEO)
ADJUST	VR804(VIDEO DC)
MODE	EE
INPUT	Color Bar
M.EQ	Oscilloscope
SPEC.	A= $0 \pm 0.05V$



3. VIDEO/RF

3-1. AUDIO VCO Adjustment

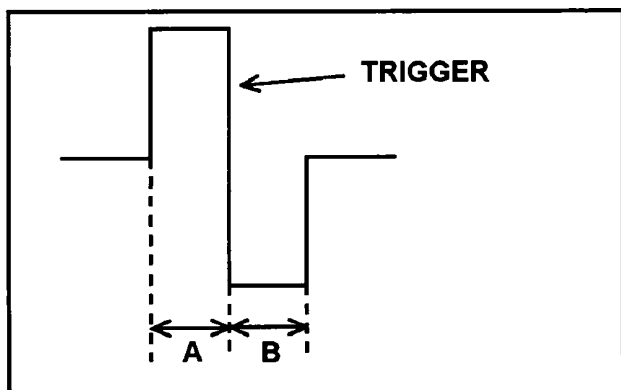
BOARD	MAIN
TEST	TP8
ADJUST	PC-EVR : AUDIO_VCO
MODE	EE
TAPE	- - -
M.EQ	Oscilloscope
SPEC.	$A=B \pm 5\%$

<NTSC>

Select PC-EVR "VIDEO ADJUSTMENT 1" $\Rightarrow$ "1. AUDIO_VCO".

<PAL>

Select PC-EVR "VIDEO ADJUSTMENT 2" $\Rightarrow$ "1. AUDIO_VCO".



3-2. ZEBRA Adjustment

BOARD	MAIN
TEST	TP12
ADJUST	PC-EVR
MODE	PLAY & EE
TAPE	NTSC : VFM3580KL (Color Bar) PAL : VFM3680KL (Color Bar)
M.EQ	Oscilloscope
SPEC.	4.25 ± 0.15 CRT scale

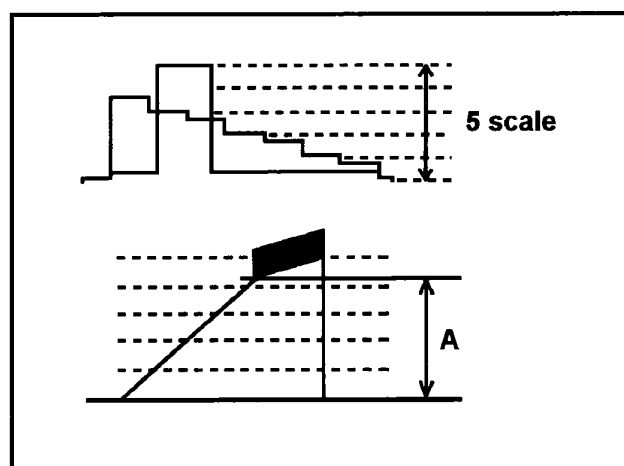
<NTSC>

Select PC-EVR "VIDEO ADJUSTMENT 1" $\Rightarrow$ "5. ZEBRA_ADJUSTMENT".

<PAL>

Select PC-EVR "VIDEO ADJUSTMENT 2" $\Rightarrow$ "2. ZEBRA_ADJUSTMENT".

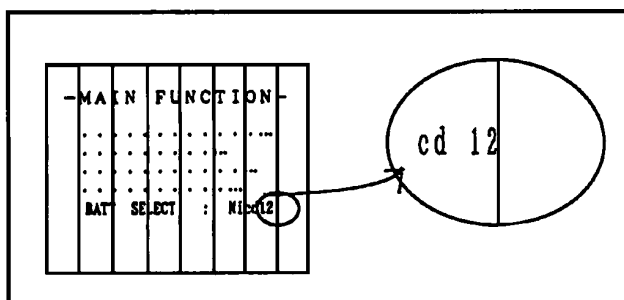
1. Playback the alignment tape and set TP12(Y level) to 5 scales of the oscilloscope by CAL.
2. Select "OUTPUT=RAMP" command and press Enter, the unit will change Ramp signal mode.
3. Adjust PC-EVR (ZEBRA=) so that A level becomes 4.25 scale level of the oscilloscope.
4. After completed this adjustment, make sure select "OUTPUT=CAM" to back camera signal mode.



3-3. Character Position Adjustment

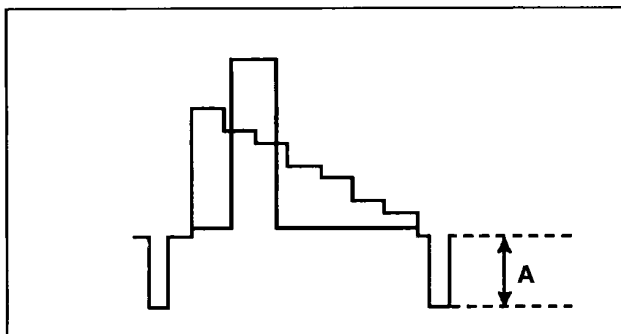
BOARD	MAIN
TEST	VIEW FINDER CRT
ADJUST	VC1
MODE	EE
TAPE	- - -
M.EQ	- - -
SPEC.	See below

1. Set the CAM/BAR switch to BAR side.
2. Adjust VC1 (VC6001) so that right edge of character comes as below position.



3-4. SYNC Level Adjustment (NTSC only)

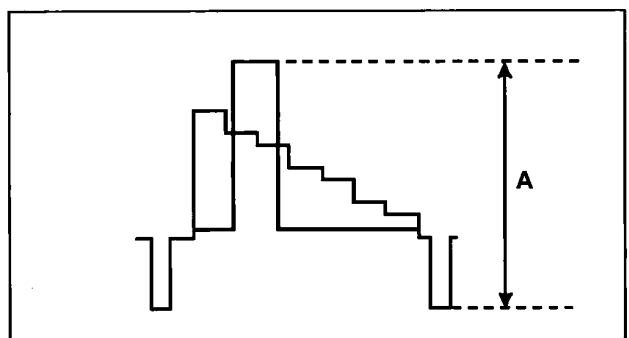
BOARD	MAIN
TEST	S-VIDEO (Y OUT)
ADJUST	VR6
MODE	PLAY
TAPE	VFM3580KL (Color Bar)
M.EQ	Oscilloscope
SPEC.	$A=0.286 \pm 0.004V_{p-p}$ (75 ohm terminated)



3-5. Y Level Adjustment (NTSC only)

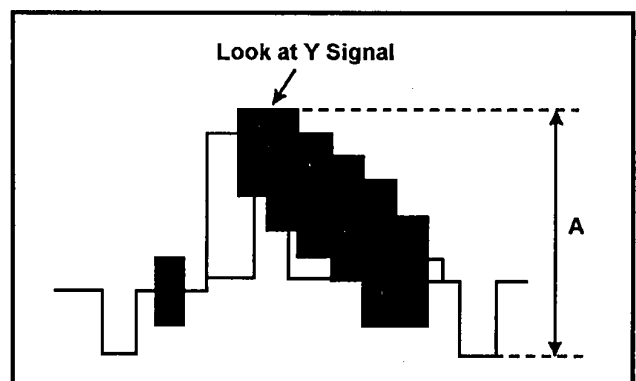
BOARD	MAIN
TEST	S-VIDEO (Y OUT)
ADJUST	PC-EVR
MODE	PLAY
TAPE	VFM3580KL (Color Bar)
M.EQ	Oscilloscope
SPEC.	$A=1.0 \pm 0.02V_{p-p}$ (75 ohm terminated)

Select PC-EVR "VIDEO ADJUSTMENT 1" $\Rightarrow$ "2. Y_OUT_LEVEL_ADJUSTMENT".



3-6. VIDEO Level Adjustment (NTSC only)

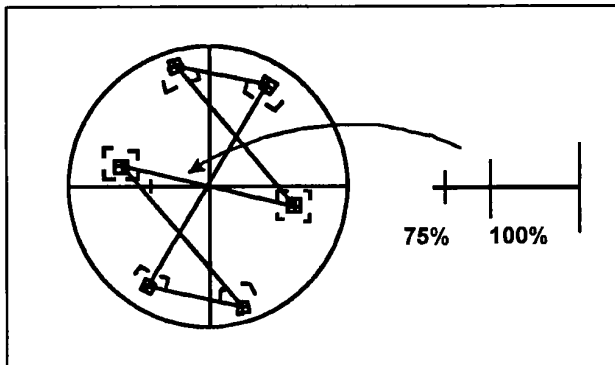
BOARD	MAIN
TEST	VIDEO OUT
ADJUST	VR10
MODE	PLAY
TAPE	VFM3580KL (Color Bar)
M.EQ	Oscilloscope
SPEC.	$A=1.0 \pm 0.02V_{p-p}$ (75 ohm terminated)



3-7. BURST Level Adjustment (NTSC only)

BOARD	MAIN
TEST	VIDEO OUT
ADJUST	PC-EVR
MODE	PLAY
TAPE	VFM3580KL (Color Bar)
M.EQ	Vector Scope
SPEC.	75% scale position

Select PC-EVR "VIDEO ADJUSTMENT 1" ⇒ "3. BURST_LEVEL_ADJUSTMENT".

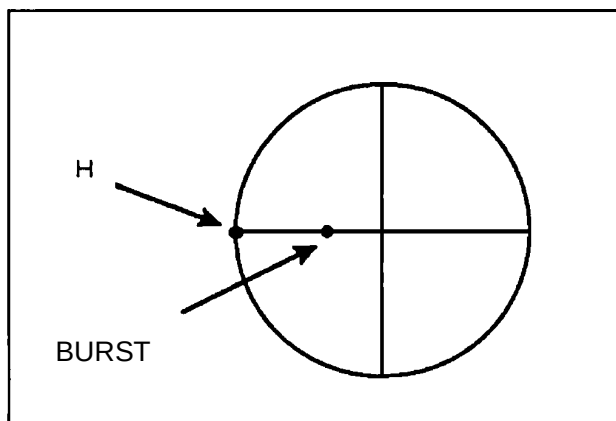


3-8. SCH Adjustment (NTSC only)

BOARD	MAIN
TEST	VIDEO OUT
ADJUST	PC-EVR
MODE	PLAY
TAPE	VFM3580KL (Color Bar)
M.EQ	Oscilloscope
SPEC.	SCH=0 ± 45°

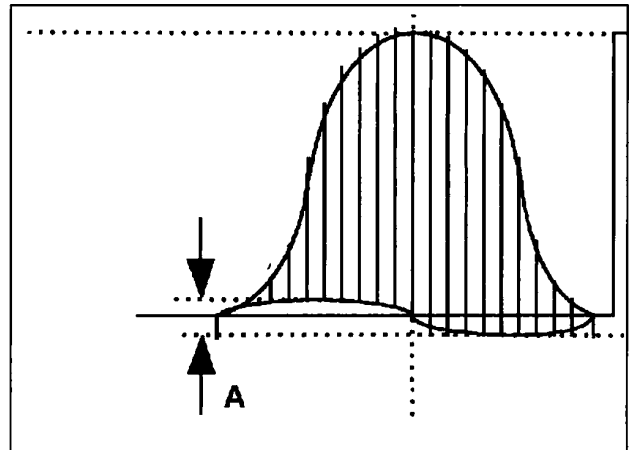
Select PC-EVR "VIDEO ADJUSTMENT 1" ⇒ "4. SCH_PHASE_ADJUSTMENT".

1. Adjust SCH so that as close to 0 degrees.



3-9. Y/C Timing Adjustment (NTSC only)

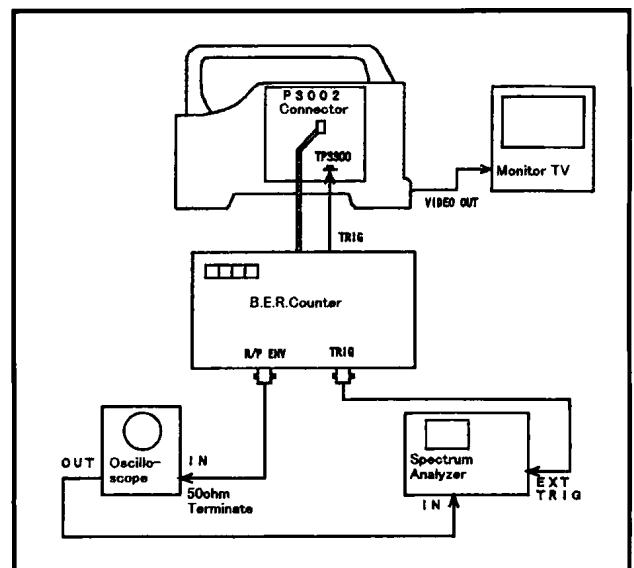
BOARD	MAIN
TEST	VIDEO OUT
ADJUST	VR5
MODE	PLAY
TAPE	VFM3580KL (Pulse & Bar)
M.EQ	WFM
SPEC.	A=minimize



<RF Adjustment Preparation>

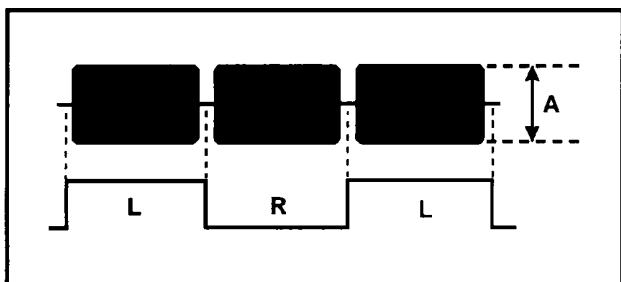
Spectrum Analyzer setting

START FREQ. : 0Hz
 STOP FREQ. : 25Hz
 RES BW : 300KHz
 VIDEO BW : 1KHz
 SWEEP TIME : 75ms
 dB/div : 2dB
 REF LEVEL : -42dB(Oscilloscope : 20mv)
 TRIG : EXT(TP3300)



3-10. R/P Envelope Confirmation

BOARD	VTR MAIN
TEST	R/P Envelope, TP3300
ADJUST	- - -
MODE	PLAY
TAPE	NTSC : VFM3580KL (Color Bar) PAL : VFM3680KL (Color Bar)
M.EQ	Oscilloscope
SPEC.	$A \geq 70\text{mVp-p}$



3-11. PB Equalizer Adjustment

BOARD	VTR MAIN
TEST	B.E.R. Counter
ADJUST	PC-EVR : as following commands
MODE	PLAY
TAPE	NTSC : VFM3580KL PAL : VFM3680KL
M.EQ	B.E.R. Counter
SPEC.	Error rate = MINIMUM

Select PC-EVR "VIDEO ADJUSTMENT 2" $\Rightarrow$ "3. PLAYBACK_E.Q._ADJUSTMENT".

1. Select "Setting" line and press Enter, automatically set INNERECC and OUTERECC to OFF mode.
2. Playback alignment tape and adjust PC-EVR (PLL_SL= $\rightarrow$ PLL_POS= $\rightarrow$ AUTO_EQ= $\rightarrow$ EQ_a_L= $\rightarrow$ EQ_b_L= then repeat PLL_SL=) so that L-ch error rate becomes minimum.
3. Set CH SW of B.,E.R. Counter to R side and adjust PC-EVR(EQ_a_R= $\rightarrow$ EQ_b_R=) so that R-ch error rate becomes minimum.

3-12. REC Current Adjustment

BOARD	VTR MAIN
TEST	TP3202 (L-ch), TP3203(R-ch)
ADJUST	PC-EVR : REC_cur_L, REC_cur_R
MODE	REC/PB
TAPE	Recording Tape
M.EQ	Spectrum Analyzer
SPEC.	See Below

Select PC-EVR "VIDEO ADJUSTMENT 2" $\Rightarrow$ "10. REC_CUR_ADJUSTMENT".

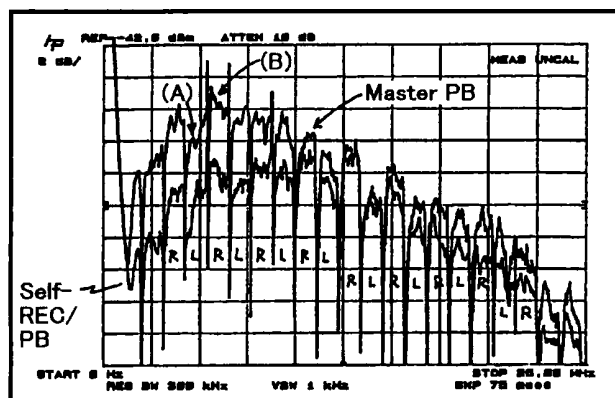
B.E.R. Counter setting

Error Count : OFF

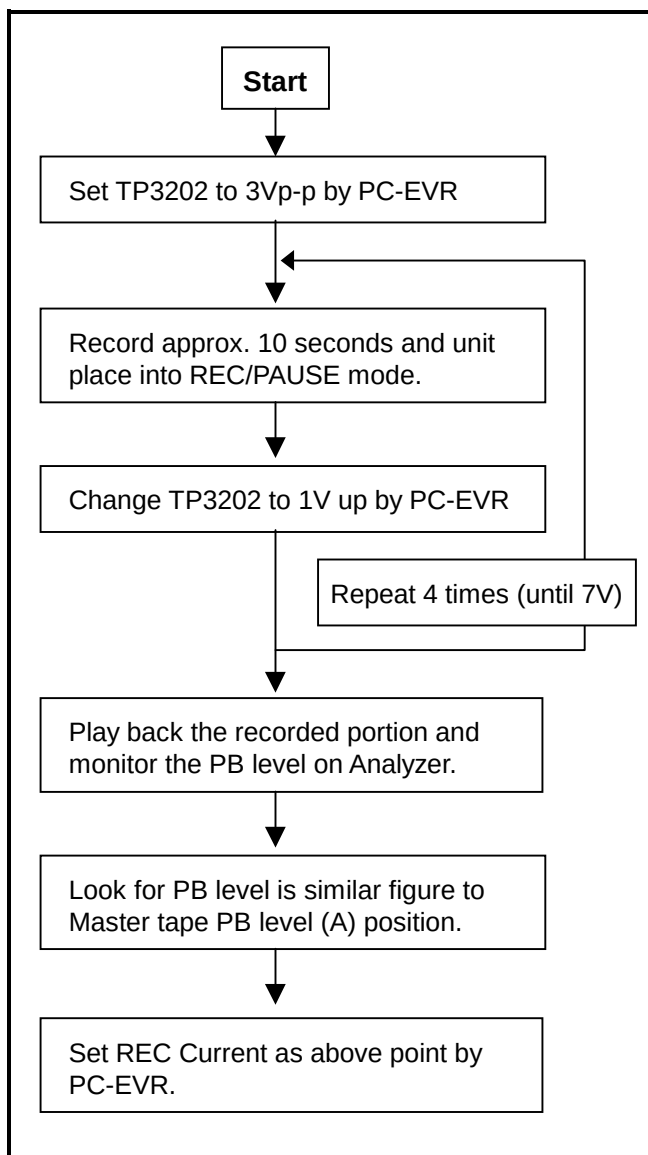
HSW SW : R

<< Preparation >>

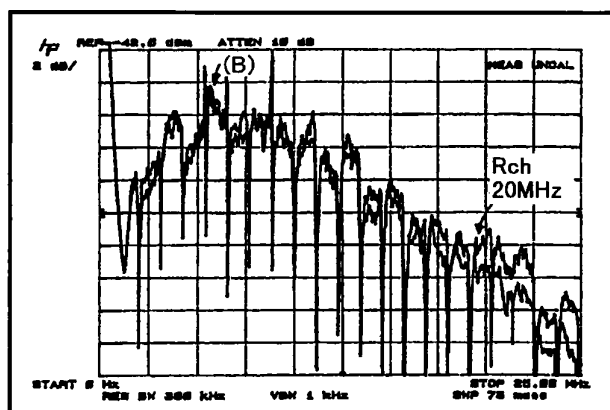
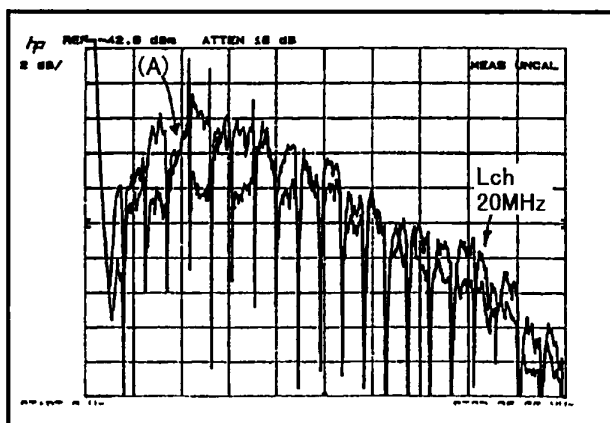
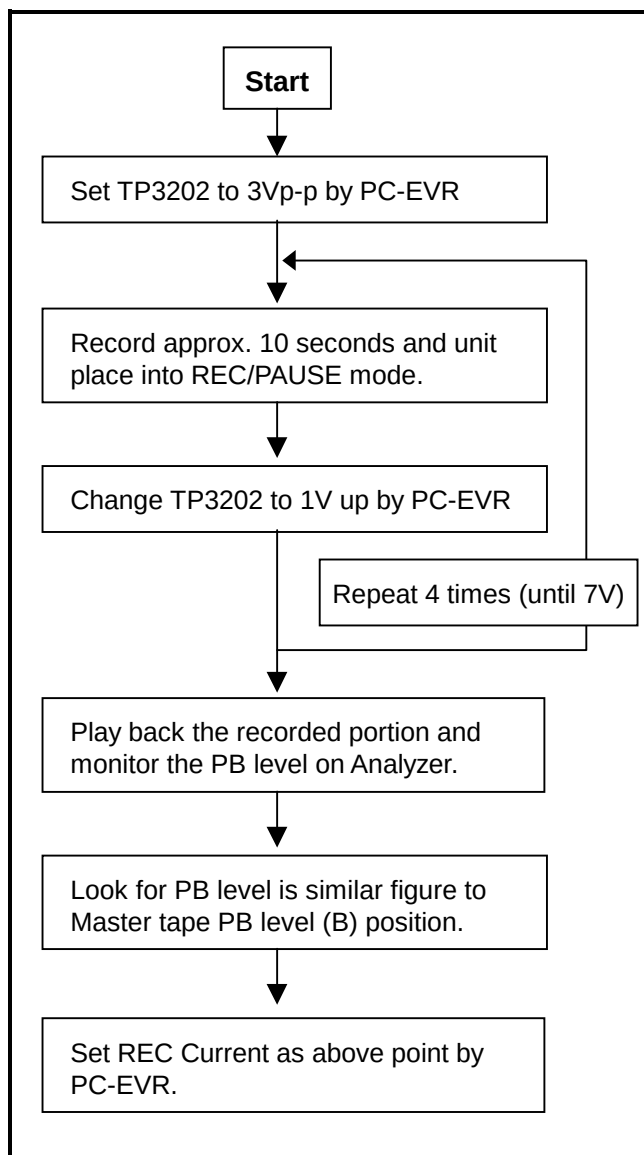
1. Playback the color bar portion of alignment tape and store average of 50 sampling in TRACE B on the Spectrum Analyzer.
2. Insert blank tape and record internal color bar signal.
3. Set REC current level for both channel to 3Vp-p by PC-EVR (L-ch : REC_CUR_L=, R-ch : REC_CUR_R).
4. Play back just recorded portion and confirm (A) and (B) point should be lower than master play back level.



<< L-ch Adjustment >>



<< R-ch Adjustment >>



After completed RF adjustment should be set ECC mode to OFF.

Select PC-EVR "VIDEO ADJUSTMENT 2" ⇒ "12. SETTING", it is set INNERECC and OUTECC to OFF

4. AUDIO

4-1. PB LEVEL Adjustment

BOARD	VTR MAIN
TEST	AUDIO OUT
ADJUST	VR4101 (CH1), VR4201 (CH2)
MODE	PLAY
TAPE	NTSC : VFM3580KL PAL : VFM3680KL
M.EQ	V.T.V.M
SPEC.	-6dBu $\pm$ 0.2dBu

1. Adjust VR4101 for CH1 and VR4201 for CH2 so that play back level becomes within specification.

4-2. CUE REC LEVEL Adjustment

BOARD	VTR MAIN
TEST	TP4001
ADJUST	VR4003
MODE	STOP
TAPE	- - -
M.EQ	V.T.V.M
SPEC.	-10dBu $\pm$ 0.2dBu

<<Preparation>>

- Select MIC SELECT SW on the side panel to "REAR" position for both channel.
 - Set REAR MIC LEVEL in menu screen to "-40dB" position.
 - Set CUE REC SELECT in menu screen to "CH1" position.
 - Adjust audio signal generator level becomes -6dBu at audio output.
 - Connect PC-EVR and set Dolby OFF mode as following steps.
 1. Use F6 Direct Command function
 2. Type "DOLBY=OFF" then press Enter.
1. Adjust VR4003 so that audio out put level becomes within specification.

After completed this adjustment should be perform next item "4-3. CUE REC CURRENT ADJ.". Then make sure Dolby set to ON mode by PC-EVR.

4-3. CUE REC Current Adjustment

BOARD	REAR JACK
TEST	TP1001
ADJUST	VR1002
MODE	PLAY
TAPE	NTSC : VFM3580KL PAL : VFM3680KL
M.EQ	V.T.V.M
SPEC.	0 $\pm$ 3dBu

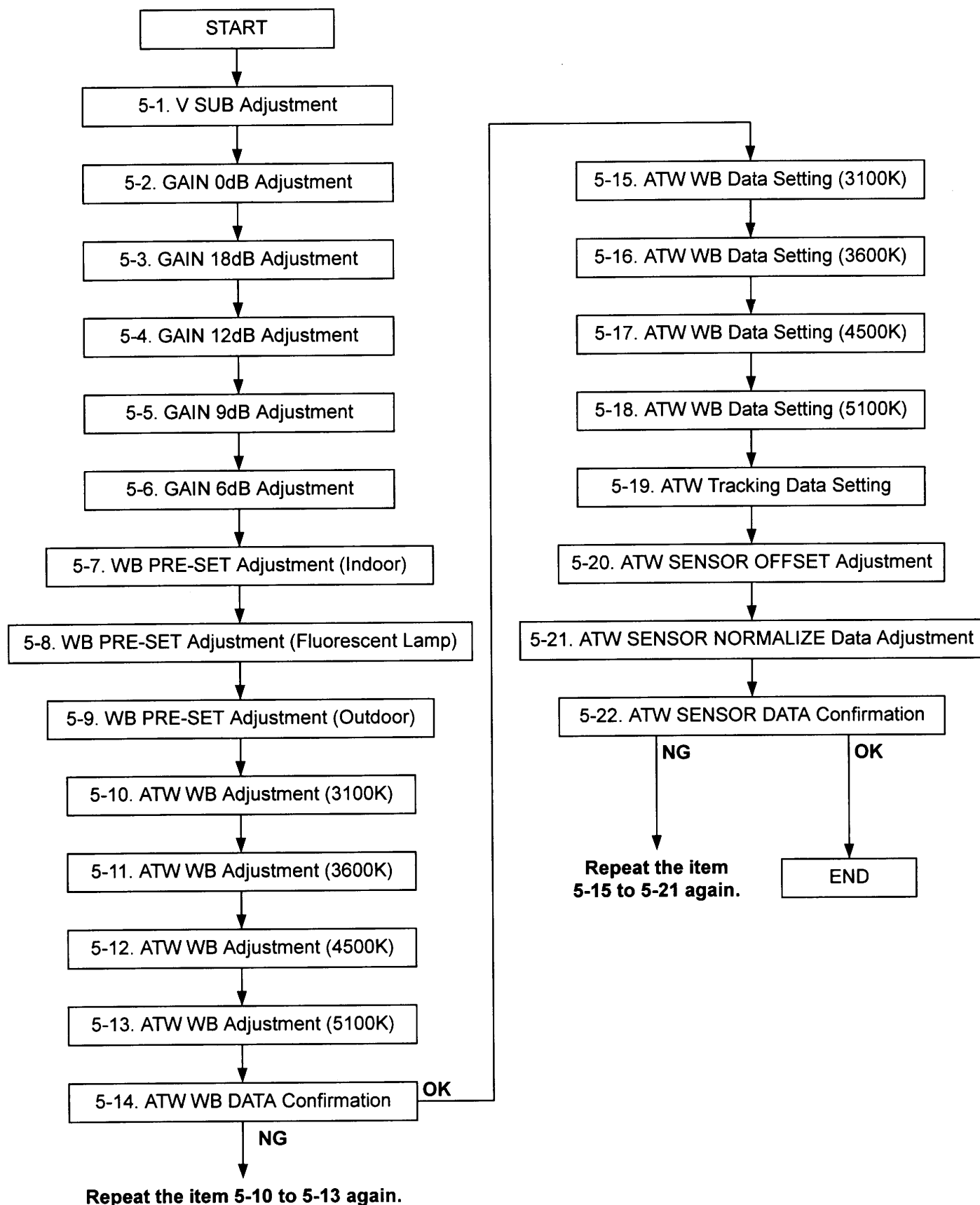
Pleas set as same as "4-2. CUE REC Level Adj." condition.

1. Play back the alignment tape and measure level at TP1002(take memo).
2. Make self record and play back, and adjust VR1002 so that play back level becomes within specification for previous step 1 level.

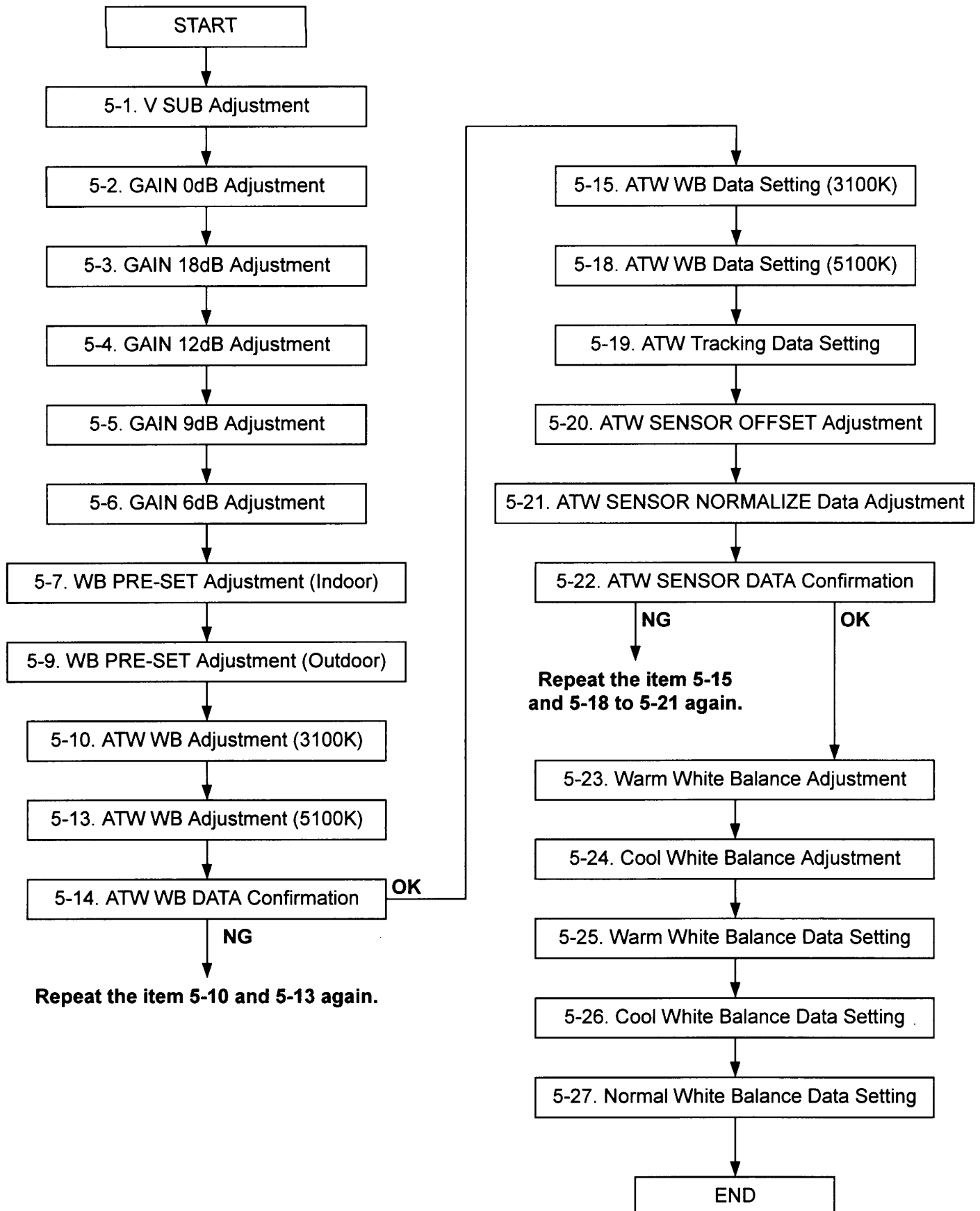
After completed this adjustment make sure Dolby set to ON mode by PC-EVR.

5. CAMERA

Adjustment Flowchart (NTSC)



Adjustment Flowchart (PAL)



All camera adjustment items using the PC-EVR.

Lighting set up : 3200K, 2000Lux

5-1. V SUB Adjustment

Select "1. VSUB_CUR_ADJUSTMENT".

SETTING	IRIS : AUTO GAIN : 0dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[All Steps]** and press Enter key, then automatically set the fixed data into **EEPROM**.

✓ Make sure selected top line on adjustment item on screen.

* After completed this adjustment, press **F1(File)** and select **HD Read**.

5-2. GAIN 0dB Adjustment

Select "2. CAMERA_GAIN_ADJUSTMENT" for all Gain adjustments (Item No. 5-2 to 5-6).

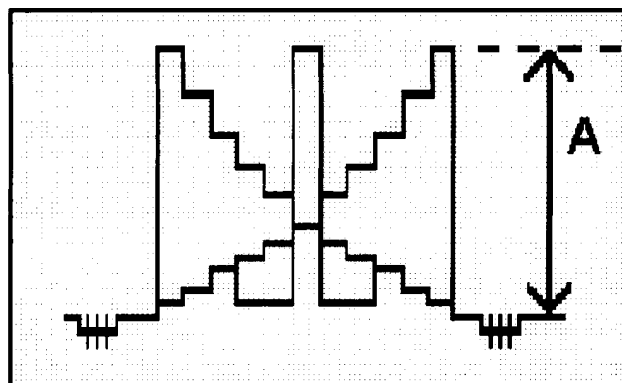
SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
TEST	P6603 Pin 4 : AGC out (R) P6603 Pin 1 : GND
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Oscilloscope, Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected top line of adjustment menu.

[1. CAMERA_GAIN(0dB)]

1. Perform Line No.1 "ADmin_R=160" to Line No.7 "AGCmin_R=0".
2. Adjust IRIS on the Lens so that Level (A) of P6603 pin 4 (AGC R) becomes 250mV.
3. Select "AGCmin_G=" and adjust the dot is at center of the vector scope by $\uparrow\downarrow$ key.
4. Select "AGCmin_B=" and adjust the dot is at center of the vector scope by $\uparrow\downarrow$ key.
5. Repeat above 3 and 4, then press ESC key to next step.



5-3. GAIN 18dB Adjustment

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

- ✓ Make sure selected line of adjustment menu.
[10. CAMERA_GAIN(18dB)]

1. Select "AGCmax_18G=" and adjust the dot is at center of the vector scope by ↑↓ key.
2. Select "AGCmax_18B=" and adjust the dot is at center of the vector scope by ↑↓ key.
3. Repeat above 1 and 2, then press ESC key to next step.

5-4. GAIN 12dB Adjustment

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

- ✓ Make sure selected line of adjustment menu.
[14. CAMERA_GAIN(12dB)]

1. Select "AGCmax_12G=" and adjust the dot is at center of the vector scope by ↑↓ key.
2. Select "AGCmax_12B=" and adjust the dot is at center of the vector scope by ↑↓ key.
3. Repeat above 1 and 2, then press ESC key to next step.

5-5. GAIN 9dB Adjustment

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

- ✓ Make sure selected line of adjustment menu.
[17. CAMERA_GAIN(9dB)]

1. Select "AGCmax_9G=" and adjust the dot is at center of the vector scope by ↑↓ key.
2. Select "AGCmax_9B=" and adjust the dot is at center of the vector scope by ↑↓ key.
3. Repeat above 1 and 2, then press ESC key to next step.

5-6. GAIN 6dB Adjustment

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

- ✓ Make sure selected line of adjustment menu.
[20. CAMERA_GAIN(6dB)]

1. Select "AGCmax_6G=" and adjust the dot is at center of the vector scope by ↑↓ key.
2. Select "AGCmax_6B=" and adjust the dot is at center of the vector scope by ↑↓ key.
3. Repeat above 1 and 2, and perform Line No.23 "SYNC" then press ESC key and select STOP to EXIT.

5-7. WB PRE-SET Adjustment (Indoor)

Select "3. WB_PRE-SET_ADJUSTMENT" for all Gain adjustments (item No. 5-7 to 5-9).

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.

[1. WB_PRE-SET_ADJUSTMENT(INDOOR)]

1. Perform Line No.1 to 3 "AWB_R=0X50, AWB_B=0X70" and confirm the dot is at center of the vector scope.
2. Select "AWB=indoorset" and adjustment performed automatically.

5-8. WB PRE-SET Adjustment (NTSC only) (Fluorescent Lamp)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
TEST	- - -
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.

[5. WB_PRE-SET_ADJUSTMENT(3600K)]

1. Put the CC filter (VFK1341:LB40) on front of the Lens.
2. Select "AWB=setting" and automatically adjust white balance and confirm the dot is at center of the vector scope.
3. Select "AWB=fluoreset" and adjustment performed automatically.

Note: When executing the "AWB=Setting" command, first, confirm that the white balance has been completed. only then, advance to the next line (command).

5-9. WB PRE-SET Adjustment (Outdoor)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen + LB120 Filter
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.

<NTSC>

[7. WB_PRE-SET_ADJUSTMENT(5100K)]

<PAL>

[5. WB_PRE-SET_ADJUSTMENT(OUTDOOR)]

1. Put the CC filter (VFK1347:LB120) on front of the Lens.
2. Select "AWB=setting" and automatically adjust white balance and confirm the dot is at center of the vector scope.
3. Select "AWB=outdoorset" and adjustment performed automatically.

* Installation of CC filter

- (1) Remove the lens foot. Then, attach the CC filter holder ring (VFK 1346) to the front side of the lens, and install the CC filter holder (VFK1345).
- (2) Remove the CC filter support of the holder, and install the specified filter. Then, start the adjustment.

5-10. ATW WB Adjustment (3100K)

Select "3. ATW:WB_ADJUSTMENT" for all Gain adjustments (item No. 5-10 to 5-13).

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.

[1. ATW:WB_ADJUSTMENT(3100K)]

1. Make sure no filter on the Lens.
2. Select "AWB_R=0X50", AWB_B=0X70 line and confirm the dot is at center of the vector scope.
3. Select "AWB=3100set" and adjustment performed automatically.

5-11. ATW WB Adjustment (3600K) (NTSC only)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
TEST	- - -
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.

[4. ATW:WB_ADJUSTMENT(3600K)]

1. Put the CC filter(VFK1341: LB40) on front of the Lens.
2. Select "AWB=setting" and automatically adjust white balance and confirm the dot is at center of the vector scope.
3. Select "AWB=3600set" and adjustment performed automatically.

* Installation of CC filter

- (1) Remove the lens foot. Then, attach the CC filter holder ring (VFK 1346) to the front side of the lens, and install the CC filter holder (VFK1345).
- (2) Remove the CC filter support of the holder, and install the specified filter. Then, start the adjustment.

5-12. ATW WB Adjustment (4500K) (NTSC only)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
TEST	- - -
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.

[6. ATW:WB_ADJUSTMENT(4500K)]

1. Put the CC filter(VFK1342 : LB80) on front of the Lens.
2. Select "AWB=setting" and automatically adjust white balance and confirm the dot is at center of the vector scope.
3. Select "AWB=4500set" and adjustment performed automatically.

Note: When executing the "AWB=Setting" command, first, confirm that the white balance has been completed. only then, advance to the next line (command).

5-13. ATW WB Adjustment (5100K)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen + LB120 Filter
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.

<NTSC>

[8. ATW:WB_ADJUSTMENT (5100K)]

<PAL>

[4. ATW:WB_ADJUSTMENT (5100K)]

1. Put the CC filter(VFK1347: LB120) on front of the Lens.
2. Select "AWB=setting" and automatically adjust white balance and confirm the dot is at center of the vector scope.
3. Select "AWB=5100set" and adjustment performed automatically.

5-14. ATW WHITE BALANCE DATA Confirmation

Select "5. ATW:WB_DATA_ADJUSTMENT" for all Gain adjustments (item No. 5-14 to 5-18).

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	Not Required
CHART	- - -
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.

[1. ATW_WB_DATA_CHECK]

Select "ATWADJ=Gaincheck" and perform it, then confirm "OK" display appear on the Screen. If appear "NG", re-adjust item 5-10 to 5-13 again.

5-15. ATW WB Data Setting (3100K)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.

[2. ATW_WB_DATA_SETTING (3100K)]

1. Make sure no filter on front of the Lens.
2. Select "ATWADJ=3100ATW" and adjustment performed automatically.

5-16. ATW WB Data Setting (3600K) (NTSC only)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
TEST	- - -
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.

[3. ATW_WB_DATA_SETTING (3600K)]

1. Put the CC filter (VFK1341:LB40) on front of the Lens.
2. Select "ATWADJ=3600ATW" and adjustment performed automatically.

5-17. ATW WB Data Setting (4500K) (NTSC only)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
TEST	- - -
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.
[4. ATW_WB_DATA_SETTING (4500K)]

1. Put the CC filter (VFK1342:LB80) on front of the Lens.
2. Select "ATWADJ=4500ATW" and adjustment performed automatically.

5-18. ATW WB Data Setting (5100K)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen + LB120 Filter
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.

<NTSC>

[5. ATW_WB_DATA_SETTING (5100K)]

<PAL>

[3. ATW_WB_DATA_SETTING (5100K)]

1. Put the CC filter (VFK1347:LB80) on front of the Lens.
2. Select "ATWADJ=5100ATW" and adjustment performed automatically.

5-19. ATW Tracking Data Setting

Select "6. ATW:SENSOR_ADJUSTMENT" for adjustments item No. 5-19 to 5-27

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	Not Required
CHART	- - -
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.
[1. ATW_TRACKING_SETTING]

1. Select "ATWADJ=Tracking" and adjustment performed automatically.

After this adjustment, the Power OFF/ON of the unit.

5-20. ATW SENSOR OFFSET Adjustment

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.
[2. ATW:SENSOR_OFFSET_SETTING]

1. Make sure no filter on front of the Lens.
2. Select "ATWADJ=Sensor_OFFset" and adjustment performed automatically.

Confirm that the "OK" message is displayed on the PC screen. If the "NG" message is displayed, perform the adjustment process from 5-15 to 5-19 again.

5-21. ATW SENSOR NORMALIZE Data Adjustment

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen + LB120 Filter
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.
[3. ATW:SENSOR_DATA_NORMALIZE]

1. Put the CC filter (VFK1347: LB120) on front of the ATW Sensor.
2. Select "ATWADJ=Sensor_Normalize" and adjustment performed automatically.

After this adjustment, the Power OFF/ON of the unit.

Confirm that the "OK" message is displayed on the PC screen. If the "NG" message is displayed, perform the adjustment process from 4-15 to 4-21 again.

5-22. ATW SENSOR DATA Confirmation

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen + LB120 Filter
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.
[4. ATW:SENSOR_CHECK]

1. Put the CC filter (VFK1347: LB120) on front of the ATW Sensor.
2. Select "ATWADJ=Sensor Check" and perform it, then confirm "OK" display appear on the Screen. If appear "NG", re-adjust item 5-15 to 5-21 again.

Confirm that the "OK" message is displayed on the PC screen. If the "NG" message is displayed, perform the adjustment process from 4-15 to 4-21 again.

5-23. Warm White Balance Adjustment (PAL only)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen + LA40 Filter
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.
[5. TW:WARM_WHITE_BALANCE_SETTING]

1. Put the CC filter (VFK : LA40) on front of the Lens.
2. Select "AWB=setting" and automatically adjust white balance and confirm the dot is at center of the vector scope.
3. Select "AWB=WWset" and adjustment performed automatically.

5-24. Cool White Balance Adjustment (PAL only)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen + LB40 Filter
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

✓ Make sure selected line of adjustment menu.
[7. ATW:COOL_WHITE_BALANCE_SETTING]

1. Put the CC filter (VFK1341: LB40) on front of the Lens.
2. Select "AWB=setting" and automatically adjust white balance and confirm the dot is at center of the vector scope.
3. Select "AWB=CWset" and adjustment performed automatically.

5-25. Warm White Balance Data Setting (PAL only)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen + LA40 Filter
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

- ✓ Make sure selected line of adjustment menu.
[9. ATW:WARM_WHITE_BALANCE_DATA]

1. Put the CC filter (VFK: LA40) on front of the Lens.
2. Select "AWBADJ=WWATW" and adjustment performed automatically.

5-26. Cool White Balance Data Setting (PAL only)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	3200K Halogen + LB40 Filter
CHART	Gray Scale
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

- ✓ Make sure selected line of adjustment menu.
[10. ATW:COOL_WHITE_BALANCE_DATA]

1. Put the CC filter (VFK1341: LB40) on front of the Lens.
2. Select "AWBADJ=CWATW" and adjustment performed automatically.

5-27. Normal White Balance Data Setting (PAL only)

SETTING	IRIS : MANUAL GAIN : 0 dB AWB : MEM OUTPUT : CAM SHUTTER : OFF
LIGHT	Not Required
CHART	- - -
M.EQ	- - -

Press **F5(Mode)** key and set mode to **[1 Step]** and press Enter key.

- ✓ Make sure selected line of adjustment menu.
[11. ATW:NORMAL_WHITE_BALANCE_DATA]

1. Select "AWB=NWset" and adjustment performed automatically.

CCD Replacement Procedures

Perform the following steps for the CCD replacement and adjustment.

1. Remove the both side panels.
2. Disconnect P6601, P6602 and P6605, unscrew 3 screws (A) on the TEST Connection C.B.A.(Fig. CCD1)
3. Disconnect P7 on the component side of the VTR MAIN C.B.A. and open this board then disconnect P1 on back side of this C.B.A.
4. Unscrews (B) on Front panel and carefully pull the Front panel unit with camera block out to front direction. (Fig. CCD2)
5. Unscrews 3 screws (C) on the shield case of CCD unit and remove the shield case. (Fig. CCD3)
6. Disconnect PP101 on the Sensor C.B.A. (Fig. CCD4)
7. Unscrew 3 screws (E) on CCD mount base and carefully remove CCD Prism unit from front panel (Fig. CCD5)
8. Replace the new CCD Prism unit and follows reverse way to above stops.

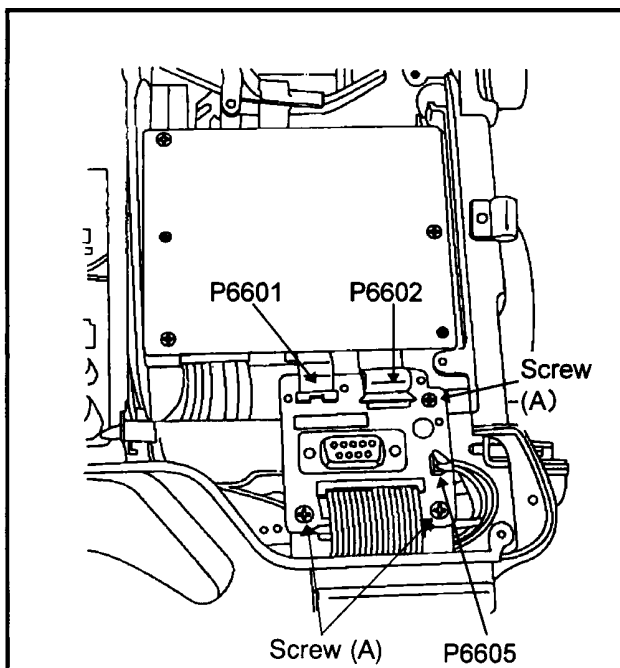


Fig. CCD1

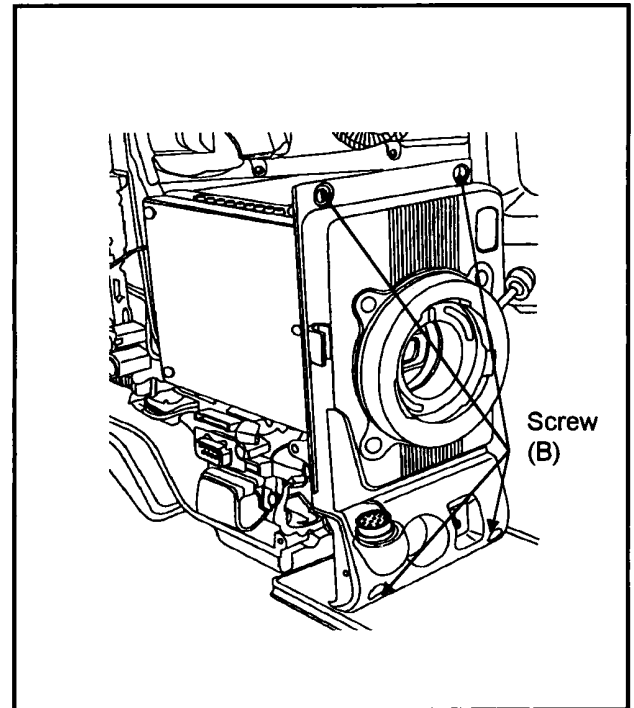


Fig. CCD2

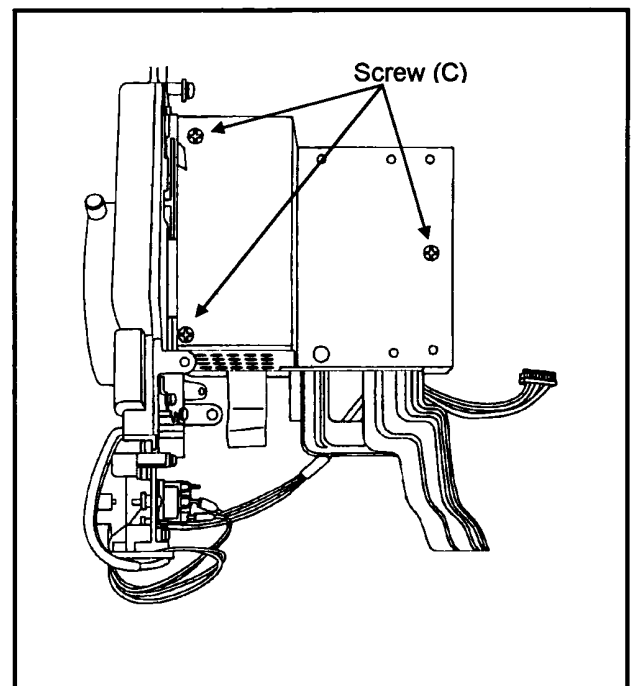


Fig. CCD3

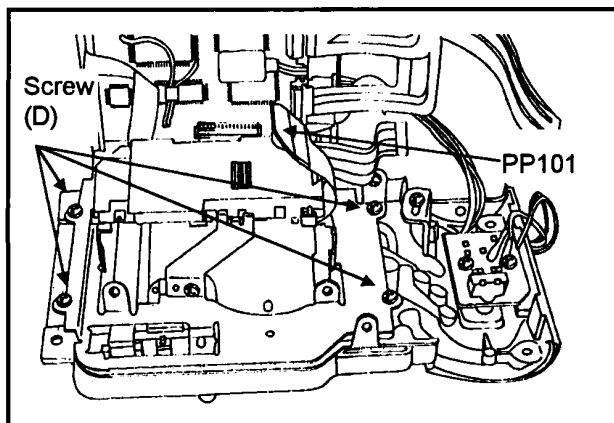


Fig. CCD4

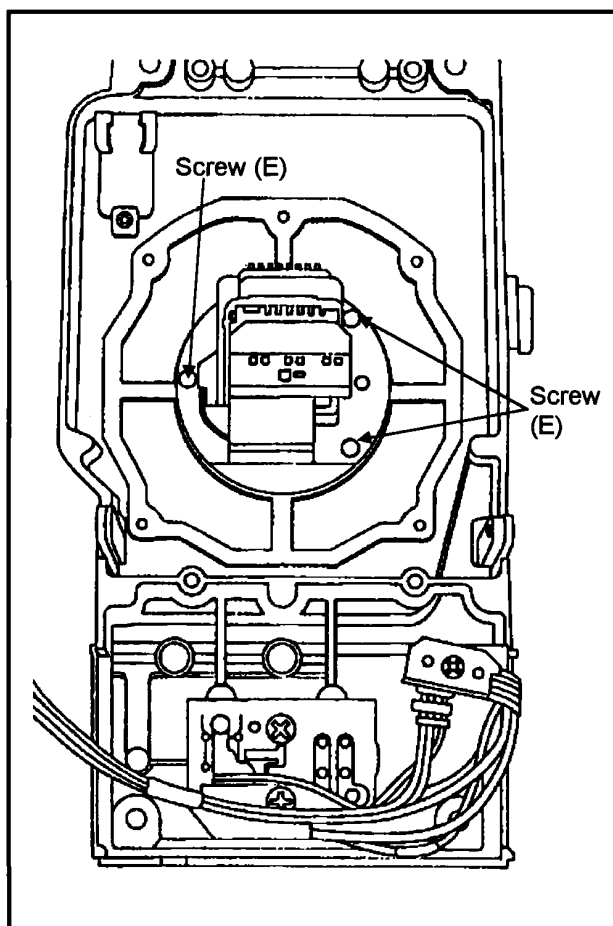
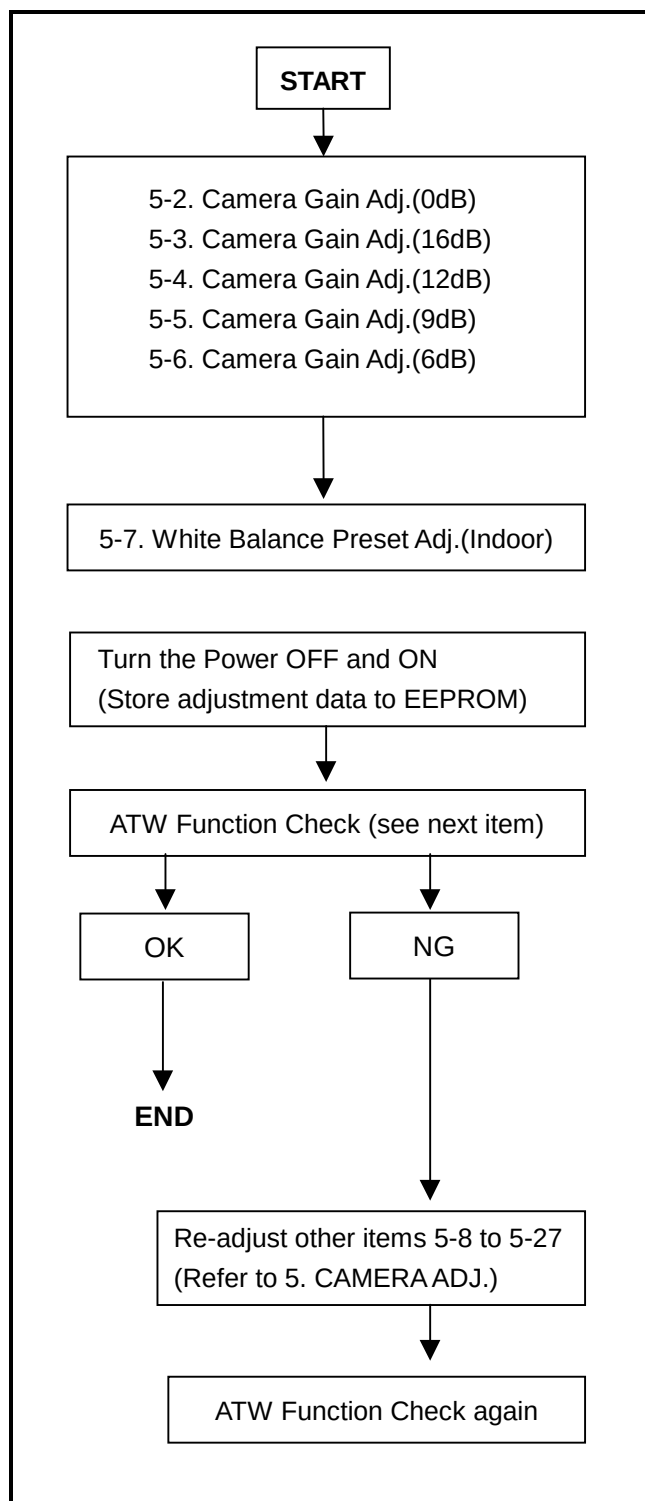


Fig. CCD5

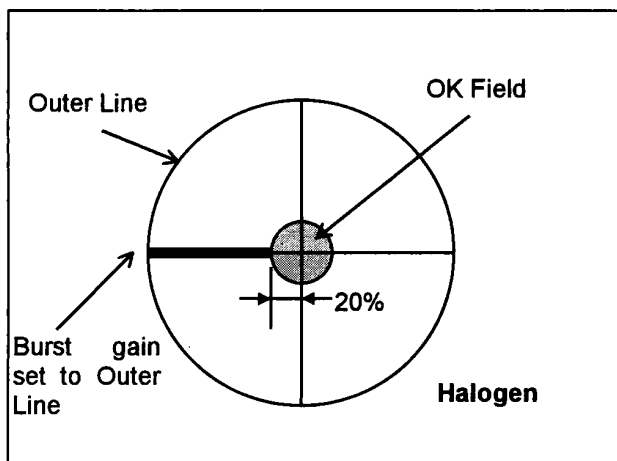
<<Adjustment Flow Chart after Install new CCD unit>>



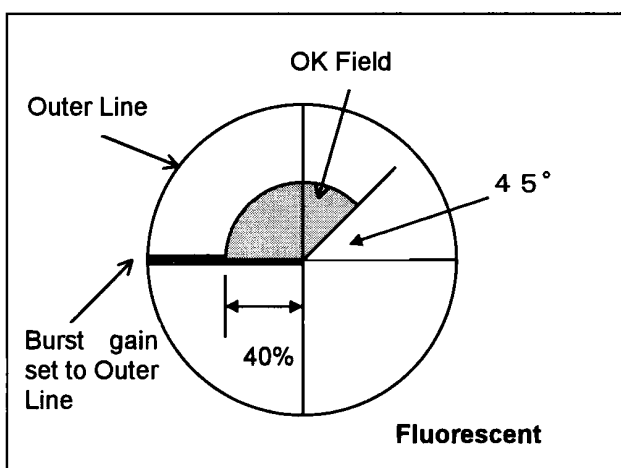
<<ATW Function Check>>

SETTING	IRIS : AUTO GAIN : 0 dB AWB : ATW OUTPUT : CAM SHUTTER : OFF
TEST	VIDEO out
CHART	Gray Scale
M.EQ	Vector Scope

1. The AWB switch on the side panel set to "ATW" mode.
1. Confirm the dot is at OK field of the vector scope as shown in below Figure under the Halogen Lamp condition.



2. Turn OFF the Halogen Lamp and lighting condition is Fluorescent Lamp.
3. Confirm the dot is at OK field of the vector scope as shown in below Figure.



6. ELECTRICAL VIEWFINDER

6-1. Preparation

1. Remove the top case of the EVF.
2. Connect the EVF to the main unit.
3. Supply an external DC to the external Do input of the main unit.

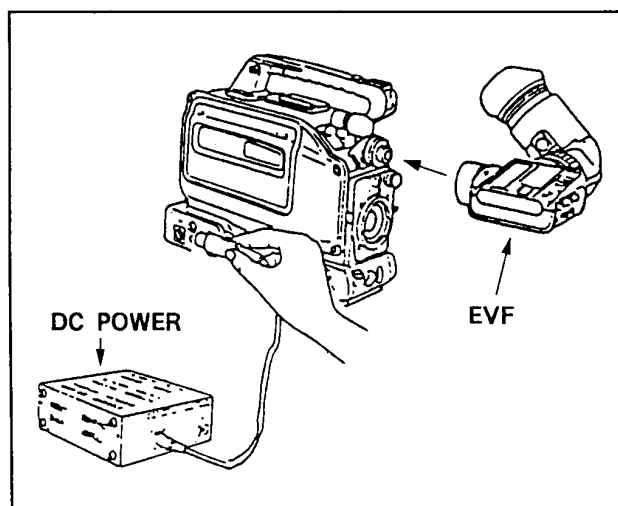


Figure F1.

6-2. Setting of the Controls for Adjustment

Unless otherwise specified, set the controls as shown below.

- PEAKING VR : 12 O'clock position
- CONTRAST VR : 12 O'clock position
- BRIGHT VR : 12 O'clock position
- CHARACTER SW : OFF
- ZEBRA SW : OFF
- TALLY SW : OFF
- IRIS SW : M (Manual)
- OUTPUT (CAM/BAR) SW : CAM

6-3. Power Supply Voltage Adjustment

BOARD	V DEF
TP	TP7001
ADJ.	VR7001
TAPE	WITHOUT TAPE
INPUT	NO INPUT SIGNAL
MODE	STOP
M.EQ	D.V.M.
SPEC.	8.6V $\pm$ 0.005V DC

1. Adjust the EVF controls as follows.
 - BRIGHT VR : Minimum (fully CCW) position
 - CONTRAST VR : Minimum (fully CCW) position
2. Connect the D.V.M. to TP7001 and adjust VR7001 so that the voltage is 8.6V $\pm$ 0.005V.

6-4. H Free Run Frequency Adjustment

BOARD	V DEF
TP	TP7401
ADJ.	VR7002
TAPE	WITHOUT TAPE
INPUT	NO INPUT SIGNAL
MODE	STOP
M.EQ	FREQUENCY COUNTER
SPEC.	15.75KHz $\pm$ 0.1KHz (NTSC) 15.625KHz $\pm$ 0.1KHz (PAL)

1. Connect the frequency counter to TP7401 and adjust VR7002 so that the frequency is within the specification.

6-5. V Free Run Frequency Adjustment

BOARD	V DEF
TP	TP7002
ADJ.	VR7006
TAPE	WITHOUT TAPE
INPUT	NO INPUT SIGNAL
MODE	STOP
M.EQ	FREQUENCY COUNTER
SPEC.	50Hz $\pm$ 1Hz(NTSC), 42Hz $\pm$ 1Hz(PAL)

1. Connect the frequency counter to TP7002 and adjust VR7006 so that the frequency is within the specification.

6-6. Deflection Yoke Tilt Adjustment

BOARD	---
TP	CRT
ADJ.	DEFLECTION YOKE
TAPE	MONOSCOPE OF ALIGNMENT TAPE
INPUT	FROM VTR SECTION
MODE	PLAY
M.EQ	---
SPEC.	PICTURE IS STRAIGHT ON THE SCREEN

1. Disassemble the CRT unit.
 - 1) Remove the top case.
 - 2) Open the H DEF C.B.A.
 - 3) Remove the eye piece unit.
 - 4) Disconnect the connectors P7004 on the Front C.B.A., P7014 on the V DEF C.B.A., P7009 on the CN C.B.A. and P7013, P7011 on the H DEF C.B.A. so that the CRT unit can be lifted.
 - 5) Shift the outer lock ring, lock ring spacer and inner lock ring to the cable side as shown in Figure F2.

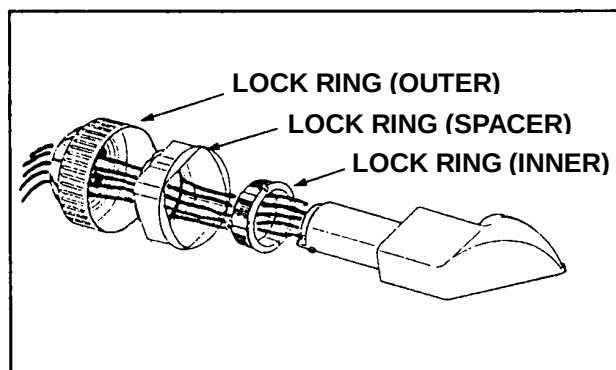


Figure F2

- 6) Unscrew the screws (A) and (B) as shown in Figure F3.

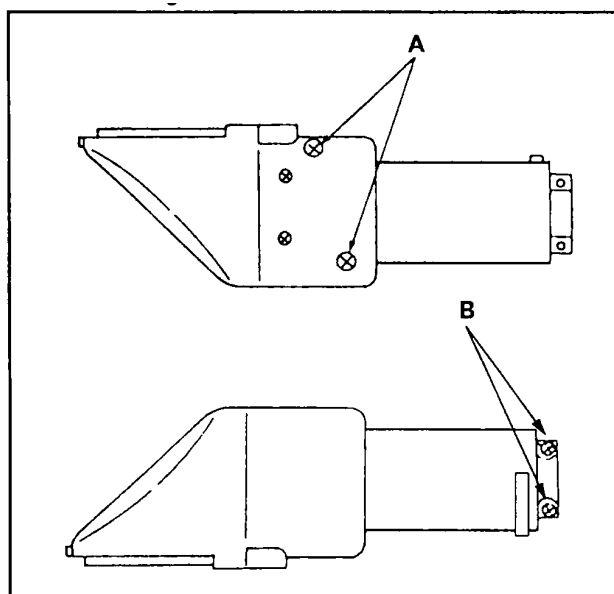


Figure F3.

- 7) Push the portion A as shown in Figure F4 so that the CRT case can be removed.

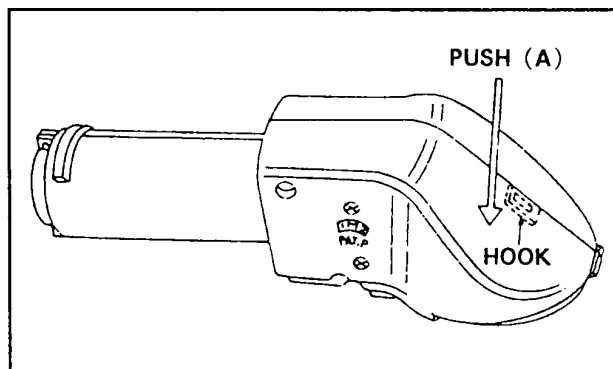


Figure F4

- 8) Connect the all connectors which have been disconnected in step 4.

2. Loosen the clamp band screw holding the deflection yoke as shown in Figure F5.
3. Rotate the deflection coil clockwise or counterclockwise so that the picture is straight on the screen as shown in Figure F6.

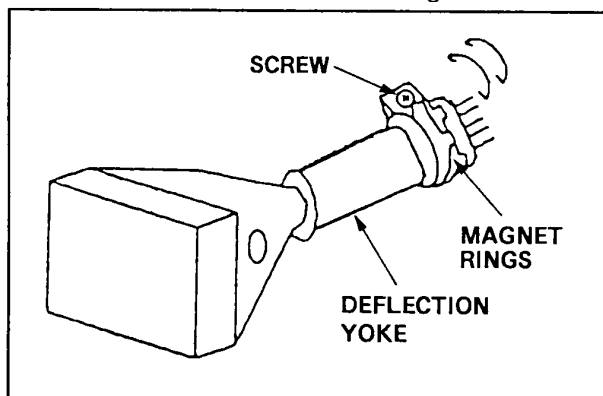


Figure F5.

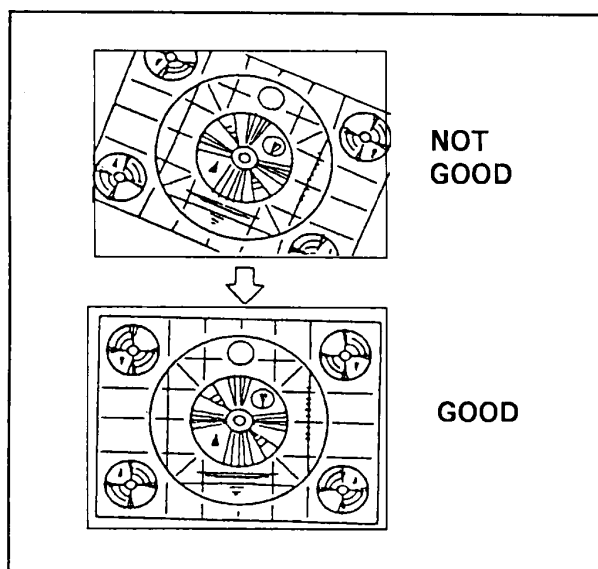


Figure F6.

6-7. Picture Centering Adjustment

BOARD	---
TP	CRT
ADJ.	CENTERING MAGNETS
TAPE	MONOSCOPE OF ALIGNMENT TAPE
INPUT	FROM VTR SECTION
MODE	PLAY
M.EQ	---
SPEC.	PICTURE IS IN THE CENTER ON THE SCREEN

1. Disassemble the CRT unit.
(refer to step 1 of 6-6. Deflection Yoke Tilt Adj.)

2. Rotate the two centering magnets as shown in Figure F4 to center the picture both vertically and horizontally as shown in Figure F8.

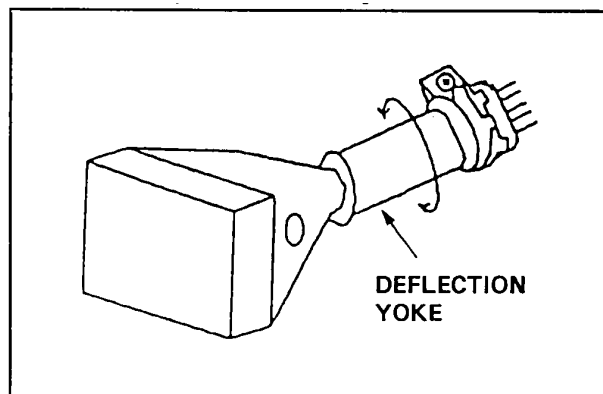


Figure F7.

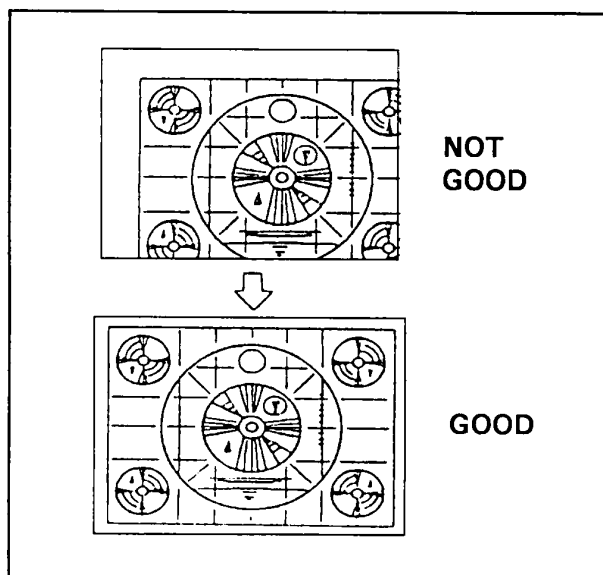


Figure F8.

6-8. Picture Size Adjustment

BOARD	V DEF
TP	SCREEN
ADJ.	VR7004(V), VR7005(H)
TAPE	WITHOUT TAPE
INPUT	FROM INTERNAL COLOR BAR
MODE	STOP
M.EQ	---
SPEC.	H=0.5mm, V=0.5mm

1. Set the CAM/BAR switch at the BAR position.
2. Adjust VR7004(vertical) and VR7005 (horizontal) so that the V width and H width of the picture frame are 0.5mm as shown in Figure F9.

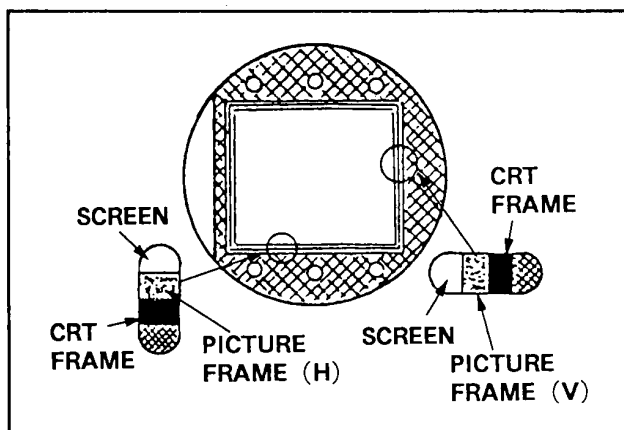


Figure F9.

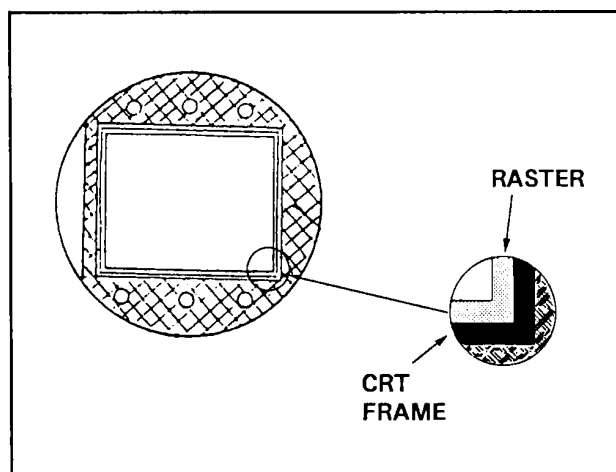


Figure F11.

6-9. Sub Bright Adjustment

BOARD	H DEF
TP	---
ADJ.	VR7003
TAPE	WITHOUT TAPE
INPUT	FROM CAMERA SECTION
MODE	VTR MODE STOP
M.EQ	OSCILLOSCOPE
SPEC.	RASTER JUST APPEAR

1. Connect the scope to the CAMERA OUT.
2. Place the unit in the CAM (camera) mode and manual iris mode.
3. Aim the camera to a plain white paper and adjust the iris so that the white level is 630mVp-p as shown in Figure F10.
4. Adjust the viewfinder controls as follow.
 - BRIGHT VR : 3 O'clock position
 - CONTRAST VR : Maximum (fully clockwise) position
 - PEAK VR : Minimum (fully counter-clockwise) position
5. Remove the eyepiece from the viewfinder unit.
6. Carefully observe the frame portion of the screen and adjust VR7403 so that the raster is just appeared slightly as shown in Figure F11.

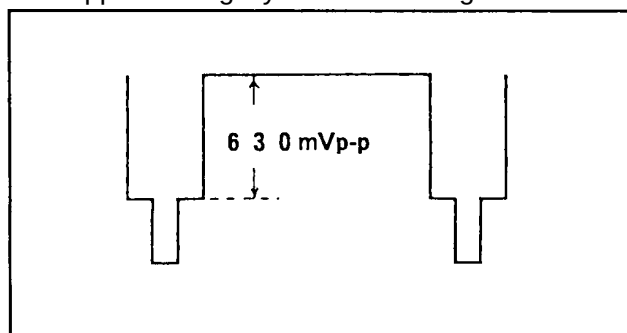


Figure F10.

6-10. Focus Adjustment

Before this adjustment, make sure that the Sub-Bright adjustment is performed.

BOARD	H DEF
TP	---
ADJ.	VR7402
TAPE	WITHOUT TAPE
INPUT	FROM CAMERA SECTION
MODE	VTR MODE STOP
M.EQ	---
SPEC.	BEST FOCUS

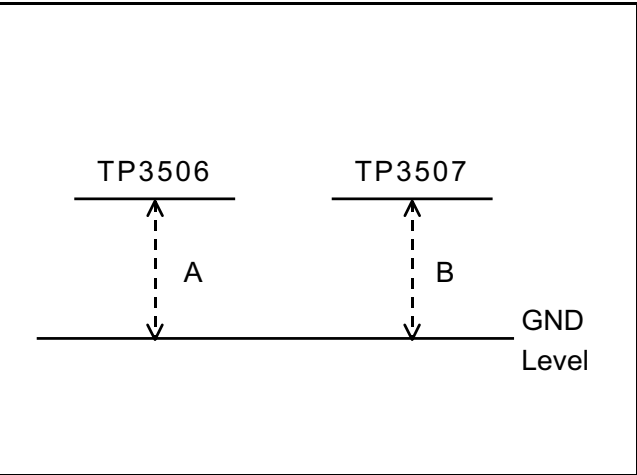
1. Connect the monitor TV to the CAMERA OUT.
2. Place the unit in the CAM (camera) mode and manual iris mode.
3. Aim the camera to a resolution chart or boll chart (VFK0580) and adjust the focus ring to the best focus for the monitor TV.
4. Adjust the viewfinder controls as follow.
 - BRIGHT VR : 12 O'clock position
 - CONTRAST VR : 12 O'clock position
 - PEAK VR : Minimum (fully CCW) position
5. Carefully observe the picture on the viewfinder and adjust VR7402 so the picture is best focus.

7. VTR MAIN P.C. Board

7-1. PLL VCD Adjustment

P.C.B.	VTR_MAIN
SPEC.	A=B
TEST	TP3506, TP3507
ADJ.	EVR (PLL_VCO)
INPUT	-----
MODE	PLAY
TAPE	NTSC : VFM3580KL (Color Bar) PAL : VFM3680KL (Color Bar)
M.EQ	Oscilloscope

- 1. Connect the oscilloscope ch1 to TP3506 and ch2 to TP3507.
- 2. Adjust the PLL VCO on EVR so that the A is equal to B.

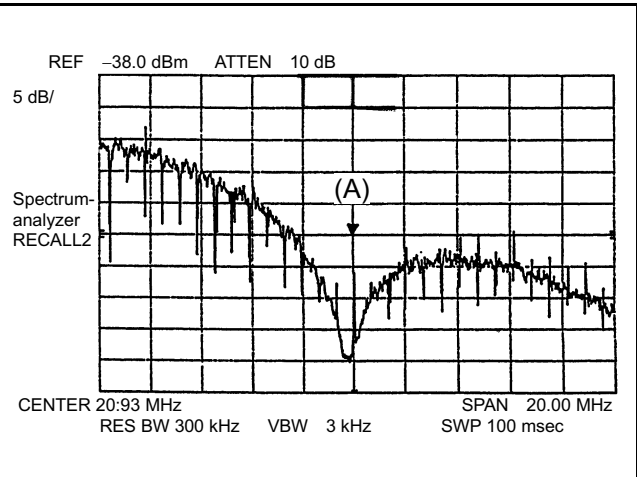


NOTE : Observe at the center of noise (TP3506).

7-2. 1+/D Frequency Adjustment

P.C.B.	VTR_MAIN
SPEC.	A=20.93 ± 0.1MHz
TEST	EYE PAT (50Ω terminated)
ADJ.	EVR
INPUT	-----
MODE	PLAY
TAPE	NTSC : VFM3580KL (Color Bar) PAL : VFM3680KL (Color Bar)
M.EQ	Oscilloscope, Spectrum Analyzer

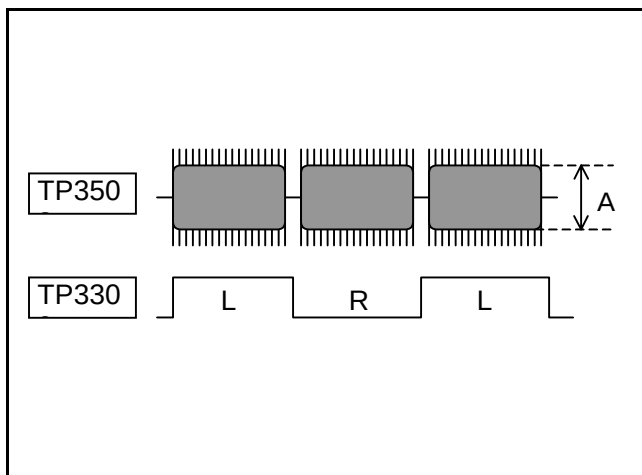
- 1. Adjust the EQ DL on EVR so that the A is within specification.



7-3. ATF Pre-Filter Gain Adjustment

P.C.B.	VTR_MAIN
SPEC.	A=350 ± 20mVp-p
TEST	TP3502, TP3300
ADJ.	EVR (ATF-GAIN)
INPUT	-----
MODE	PLAY
TAPE	NTSC : VFM3580KL (Color Bar) PAL : VFM3680KL (Color Bar)
M.EQ	Oscilloscope

1. Connect the oscilloscope ch1 to TP3502 and ch2 to TP3300.
2. Adjust the ATF GAIN on EVR so that the level A is within specification.



NOTE : Observe L CH (HSW Hi) and adjust at flat portion.

7-4. Playback Picture Confirmation

P.C.B.	VTR_MAIN
SPEC.	Error=MINIMUM
TEST	VIDEO OUT
ADJ.	EVR (See below)
INPUT	-----
MODE	PLAY
TAPE	NTSC : VFM3580KL (Color Bar) PAL : VFM3680KL (Color Bar)
M.EQ	MONITOR TV

1. Playback the alignment tape.
2. Observe VIDEO OUT on the Monitor TV.
3. Adjust on the EVR in below order so that the error is minimum on the monitor TV.
 - PLL SL
 - PLL POS
 - AUTO EQ
 - EQ A L
 - EQ A R
 - EQ B L
 - EQ B R

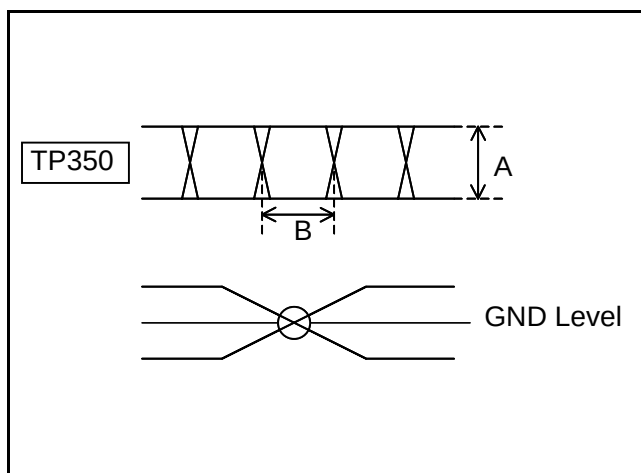
NOTE : CONCEAL, INNERECC and OUTERECC turn off before this adjustment.



7-5. HSE Input DUTY Adjustment

P.C.B.	VTR_MAIN
SPEC.	$A=1.3 \pm 0.1V_{p-p}$, $B=24 \pm 1nS$
TEST	TP3201
ADJ.	VR3200 (DUTY)
INPUT	COLOR BAR
MODE	REC
TAPE	Blank Tape
M.EQ	Oscilloscope

1. Confirm that the waveform appear as shown below at REC START.
2. Expand the time axis and observe in AC mode against GND standards. Adjust VR3200 so that the cross point is equal to GND level.

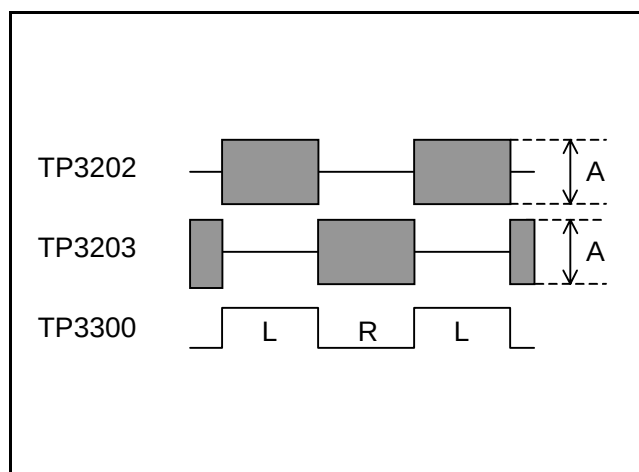


7-6 REC CUR Adjustment

P.C.B.	VTR_MAIN
SPEC.	$A=6.0 \pm 0.2V_{p-p}$
TEST	TP3202, TP3203, TP3300
ADJ.	EVR (REC_CURL, R)
INPUT	COLOR BAR
MODE	REC
TAPE	Blank Tape
M.EQ	Oscilloscope

1. Connect the oscilloscope to above test points.
2. Record the color bar signal.
3. Observe every point, and adjust EVR so that the level A is within specification.

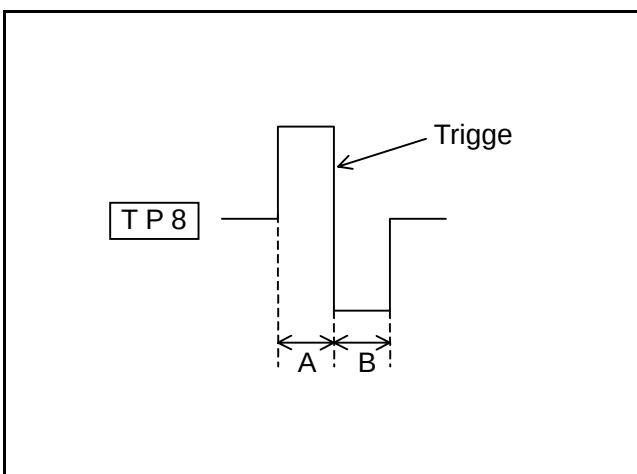
NOTE : Please turn OFF the filter of the oscilloscope.



7-7 AUDIO VCO Adjustment

P.C.B.	VTR_MAIN
SPEC.	A=B
TEST	TP8 (VCO_ADT)
ADJ.	EVR (AUDIO_VCO)
INPUT	COLOR BAR
MODE	E-E
TAPE	-----
M.EQ	Oscilloscope

1. Trigger at the center. (In case triggered at the center, right and left width tremble.)
2. Adjust the EVR so that the width A is equal to width B.



7-8 ZEBRA Adjustment

P.C.B.	VTR_MAIN
SPEC.	A=85 ± 5 IRE, B=20 ± 2 IRE
TEST	TP12 (EVF)
ADJ.	EVR (ZEVRA), VR9 (ZEVRA LEV)
INPUT	LAMP
MODE	E-E
TAPE	-----
M.EQ	Oscilloscope

<Remarks>

Level A : Adjust with the EVR.

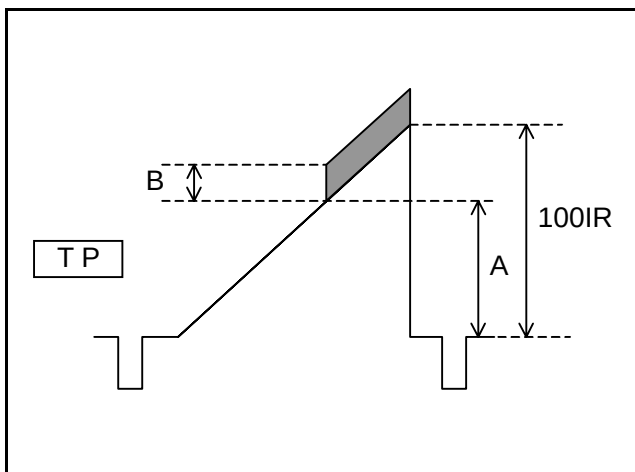
Level B : Adjust with the VR9.

<Switch Setting>

EVF : ZEBRA ON

CHARACTER OFF

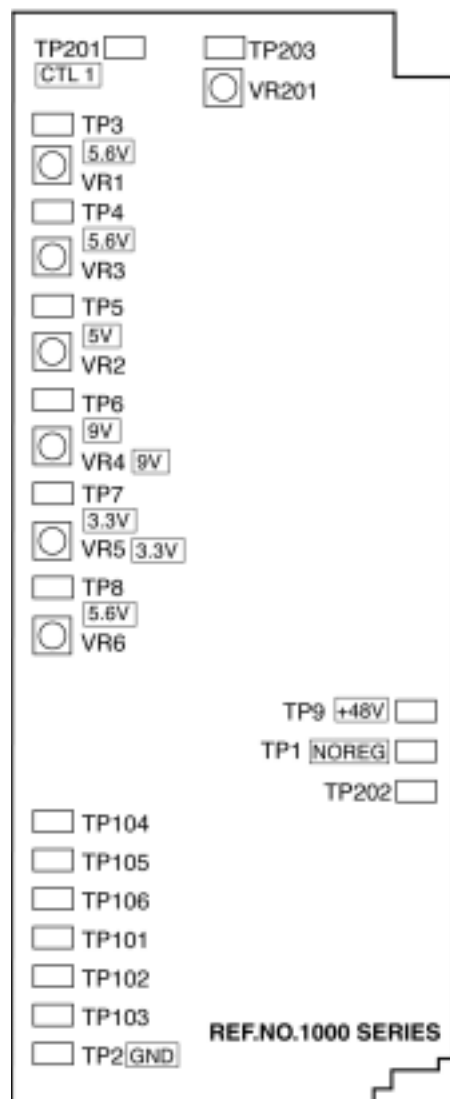
1. Adjust EVR so that the level A is within specification.
2. Adjust VR9 so that the level B is within specification.
3. After complete the adjustment, turn off the ZEBRA.



VTR MAIN C.B.A

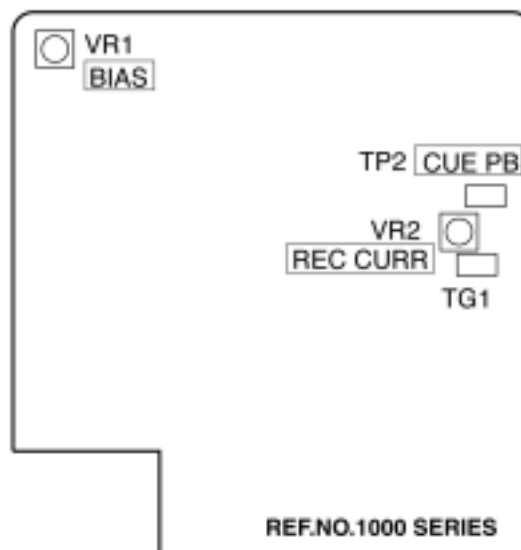


POWER C.B.A



(COMPONENT SIDE)

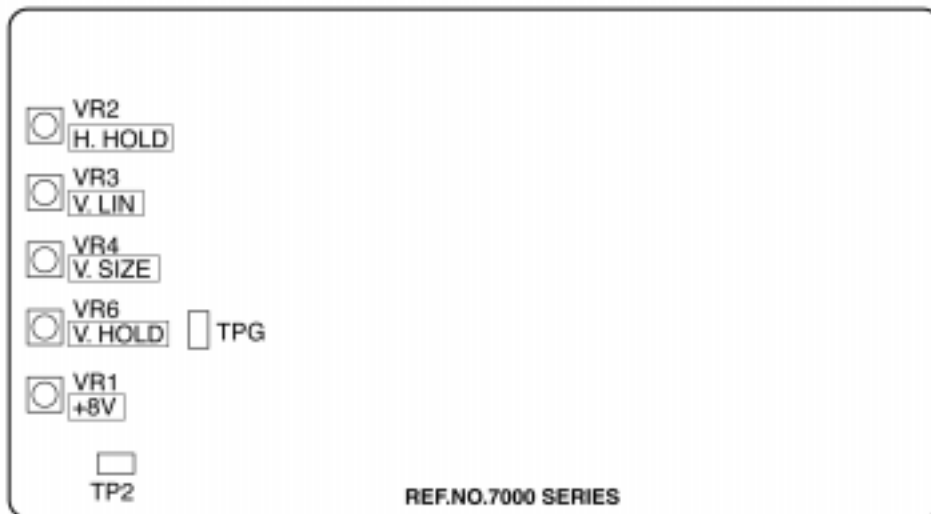
REAR JACK C.B.A



SERVO C.B.A.

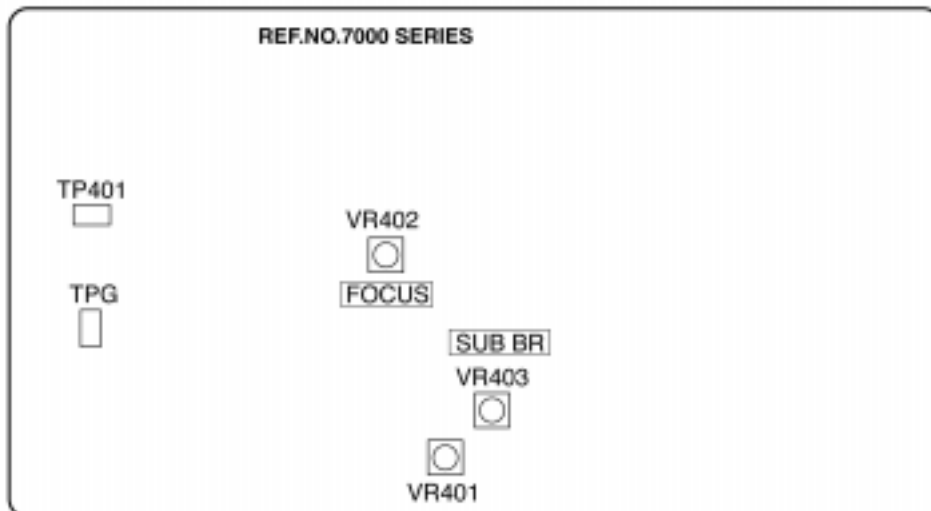


V DEF C.B.A.



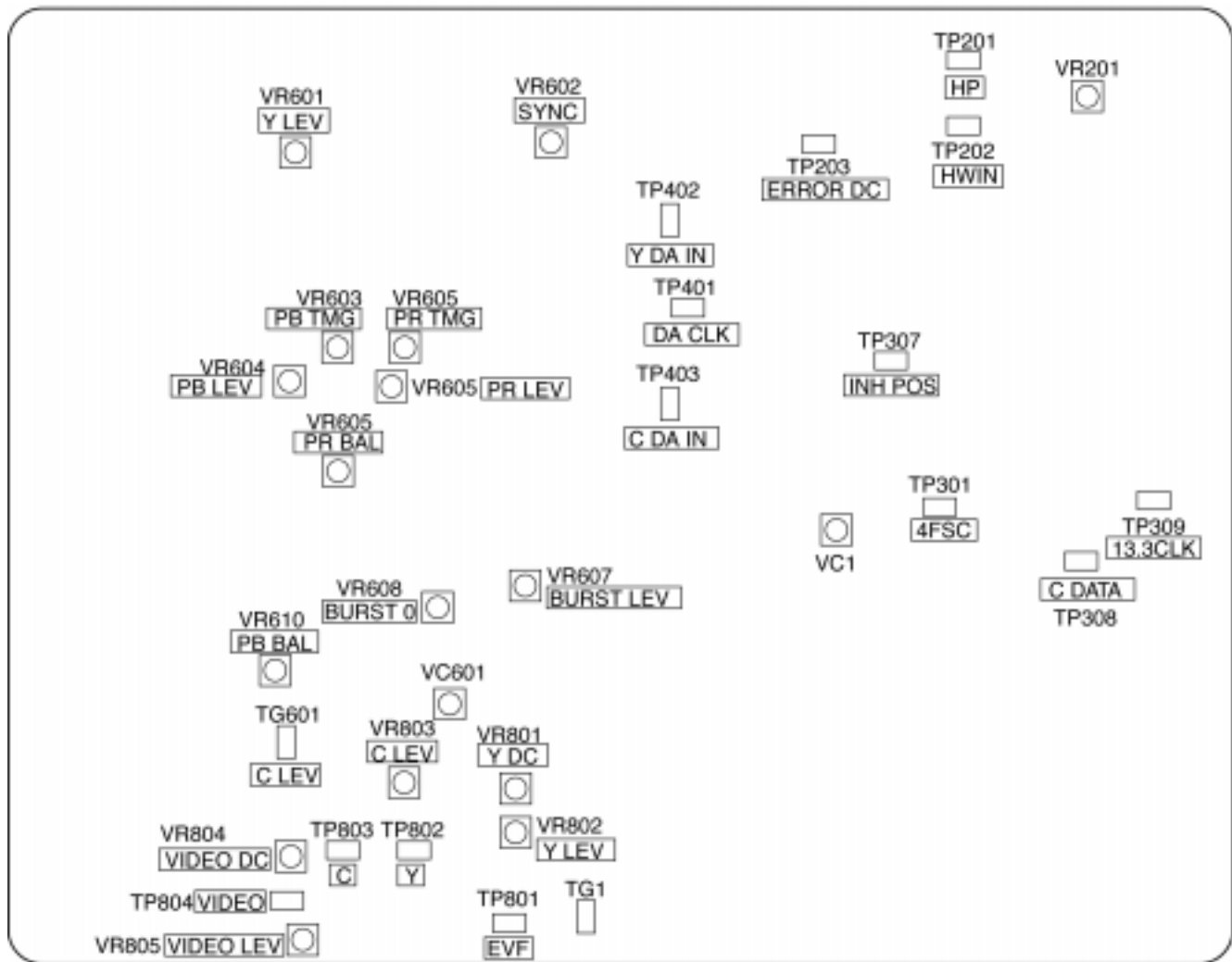
(COMPONENT SIDE)

H DEF C.B.A.



(FOIL SIDE)

1394 & PRE SHUFFLE C.B.A



(COMPONENT SIDE)